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***Brain Gym Method to Enhance the Writing Skills of
Elementary School Students in Indonesia***

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Abstract

Students in Indonesia experience problems in writing skills. Based on the study of PISA (2023), PIRLS (2015), TIMSS, EGRA USAID (2018), The Primary Year Program (2003), Balitbang Dikbud (2003), Ministry of Education and Culture (2016) shows that Indonesian students have quite low scores in writing skills so we need a method that can make students feel interested and challenged to write. Brain Gym is an intriguing technique to try out to develop this writing skill because it has been shown in numerous studies to be able to improve cognitive capacities, diverse skills, and motivation. This study aimed to compare students' writing abilities in experimental and control classes, to identify the profile of students' essay-writing abilities in primary schools, and to examine the learning process. A quasi-experimental nonequivalent control group was utilized as the methodology. Two classes were the study's subjects. The results of a pretest and posttest on students' writing served as the research data collection method. The outcomes demonstrated that this approach had an impact on primary school kids' writing abilities. These results suggest that this approach should be applied to materials and lessons with longer time constraints.

Keywords: Brain Gym, Writing Skills, Elementary School, Indonesia

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Introduction

Language as a means of human communication in the form of symbols or signs and always contains thoughts or feelings. In this communication activity, humans convey their thoughts and feelings to other parties. Writing skill is the most neglected language skill in language education. This is due to wrong practices in learning to write from elementary school to college. Writing competence is tangible in written work, there is no mastery of theory without writing. The purpose of writing is to convey a message to the reader otherwise, the activity of writing is in vain (Alwasilah, 2005) in a more cultured Indonesian tradition, speech-hearing is not reading-writing, and literacy limits tend to ignore the writing component. Language education, especially writing, should train students to recognize inspiration, capture it, and manifest it in a work.

According to Harjoprakoso, research results reveal that Malaysia is able to publish around 6000 to 7000 new book titles per year on average, while Indonesia has 4000-5000 titles per year even though the population of Indonesia is 10 times the population of Malaysia, this is due to the lack of public interest in writing. Another study revealed that in the perception of respondents the national education system from elementary school to university provided writing skills (23.34%), reading skills (23.45%) and critical thinking skills (31.86%) meaning that the majority of respondents were more than 75% assessed that the national education system has not developed the basics of literacy, especially writing which is only perceived as the most difficult skill to master (43.22%) followed by speaking skills (28.64%) listening 21.11 and reading 7.04 (Alwasilah, 2005).

At first writing ability was the ability to recognize and write sound symbols, produce words and produce sentence structures, but step by step writing was introduced and tested as a coherent and complete ability. Therefore, writing skills are given intensively after students have an adequate level of ability in listening, speaking and reading so that these abilities can be used as a foundation for coaching and developing writing skills. One of the causes of human powerlessness in life is the lack of control over words, especially written words. It is very natural for someone to feel confused when writing. The most effective way to improve writing skills is to practice freewriting regularly, at least 3 times a week. (Elbow, Peter, 2007).

Writing practice is something that can be done by anyone, but the level of difficulty in writing for someone is certainly different, besides that the atmosphere is also a supporting factor that determines success in the writing process. A comfortable and pleasant atmosphere will stimulate the brain to think and be able to create interesting ideas and ideas as well. So that there is a need for conditioning in order to create a supportive atmosphere in the writing activity. To create a supportive atmosphere and overcome difficulties in writing activities, a learning method is needed that can improve students' writing skills, which makes students happy to write and makes writing an activity that is no longer considered difficult.

Research on Brain Gym has been carried out by many previous researchers, including the influence of Brain Gym on understanding the concept or material of a particular learning or skill of students (Saleh & Mazlan, 2019); (Spaulding, Mostert, & Beam, 2010); (Stephenson, 2009); (Annisa, 2016), Brain Gym for the elderly or those with dementia/dementia (Yusuf, Indarwati, & Jayanto, 2004); (Cancela et al., 2015)) and Brain Gym for people with disabilities (Watson, Kelso, & Austin, 2014); (Hyatt, 2007). Based on previous research, Brain Gym is able to optimize brain function for various skills, but there needs to be

something new, namely in the application of local culture, especially folk songs as national identity and cultural preservation efforts.

One alternative for interesting and meaningful learning is to use the Brain Gym method, which is a method that will assist students in activating all dimensions of the right and left brain so that students will be actively involved in fun and meaningful learning. Brain Gym is a series of exercises to stimulate the left and right brain. The brain is the center of awareness of all human activities and it is this brain that helps humans in facilitating learning activities and making adjustments to the tensions, challenges and demands of everyday life.

Based on this empirical study, the author feels that it is still necessary to conduct research and development on methods that are able to optimize the performance of our brains, because in addition to its enormous benefits, Brain Gym is indispensable in optimizing brain function which is so crucial in the 21st century. Based on the description above, the researcher raised a research topic with the title "Brain Gym Method to Enhance Writing Skill Student in Indonesia".

Methods

This research method is carried out using quantitative methods with a quasi-experimental type of research. Data collection techniques in this study is through the provision of tests. The type of test carried out is a written test. The test was used to determine the results of students' learning to write narrative essays using the Brain Gym method in the experimental class and conventional methods in the control class.

The data obtained from this study is the level of students' writing skills obtained from the test results, namely Pretest and Posttest. The pretest was conducted to determine the students' writing ability before being given treatment, while the posttest was conducted to determine the results of the student's writing ability after being treated in the form of a Brain Gym.

The Brain Gym method was used in an experimental class to determine its effect on narrative writing skills. Brain Gym is a series of simple movement exercises that help optimize the function of all kinds of centers in the human brain (Siamy, 2015 p. 34). Writing skills consist of 5 stages, namely prewriting, writing concepts (drafting), revising (revising), editing (editing), and publication (publishing) the five stages of writing skills are included in the Learning Implementation Plan (RPP) which functions as a reference in implementing learning. After designing the lesson plan, the researcher conducted a pretest in both the experimental class and the control class to obtain initial data that would be used as a reference in learning. After the pretest result data was obtained, calculations were carried out and then analyzed to what extent the pretest scores were obtained in the two classes. The students' pretest results were seen from the class average, highest score, lowest score, and average achievement per aspect.

After carrying out the pretest and obtaining the results, treatment was carried out in the experimental class using the Brain Gym method for six meetings in each class. After giving treatment to each class, a posttest was given. Referring to the problem formulation and research objectives, an assessment rubric was determined based on competency standards in the KTSP class IV elementary school Indonesian language subject curriculum, namely making various types of essays by paying attention to spelling and referring to the principles of writing essays.

In discussing the research results of the initial data analysis based on the pretest results, there were no significant differences in the results of students' essays for the experimental class and the control class. The results of this research show the impartiality of researchers in choosing the control class and the experimental class. Based on the results of the descriptive analysis, overall writing skills have increased. This can be seen from the comparison of the pretest and posttest results in the experimental class and control class. In learning using the Brain Gym method, the average skill in writing narrative and descriptive essays was in the poor category (10-55), whereas after being given treatment in the form of Brain Gym, the average posttest showed an increase so that the category in writing essays was in the sufficient category (56-75).

Result and Discussion

Writing is a person's ability to use language symbols to convey something in the form of ideas or ideas to other people or readers which is done using written language. By writing a person can communicate with other people who may never even meet (Cahyani and Rosmana, 2006). The Brain Gym method was created to stimulate (Letarity Dimension) to relieve the left and right hemispheres of the brain, (Focusing Dimension) to relax the back of the brain (brainstem or brainstem) and the front of the brain (fronta lobes), and (Concentration Dimension) to the limbic system (midbrain) and the cerebrum (cerebral cortex). Brain Gym is one of the teacher's efforts to improve student's learning abilities, according to Supardjiman (2007) the Brain Gym method has several benefits, namely:

- 1) Allows stress-free learning;
- 2) can be done in a short time;
- 3) does not require special materials and places;
- 4) can be done in all situations (while studying and working);
- 5) can increase self-confidence;
- 6) show results immediately;
- 7) can be explained aneurophysiologically by dr. Carla Hannaford;
- 8) very effective for handling obstacles in learning;
- 9) activate one's full potential and skills and is recognized as one of the best learning techniques by the National Learning Foundation, USA, and has been widely distributed in more than 80 countries.

Brain Gym is very good to do at the beginning of the learning process, especially when accompanied by songs or music that are cheerful and happy. Brain Gym can also be done to refresh the child's physical and mind after undergoing a learning process that requires high concentration which can result in brain fatigue. Brain Gym has a goal so that children can play and do physical exercises that can help improve children's writing skills.

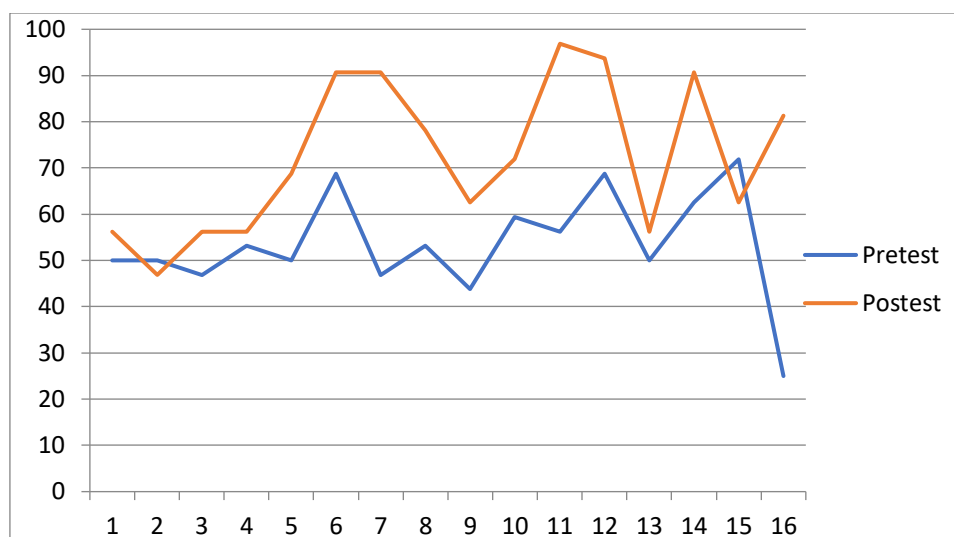


Figure 1: Pretest and Posttest Scores in the Experimental Group

Based on data analysis carried out by researchers, it was concluded that the Brain Gym method was proven to be effective in improving student's writing skills. This can be seen in the increase in the average score obtained from the pretest and posttest results for the experimental class when compared with the increase experienced by students in the control class who use other methods. There are 26 Brain Gym movements taught in this research, but in the learning implementation plan only 11 movements are taught, namely:

1. Drink water
2. Brain button
3. Cross movement
4. Latches relax
5. 8 Sleep
6. Double Strikethrough
7. Positive Point
8. Activate hands
9. Filling energy
10. Neck twist
11. Owl

From 11 movements there are several movements taught that are very prominent concerning students' writing skills which are visible to researchers based on the results of students' essays, namely drinking water, cross movements, relaxed hooks, elephants, double strokes, positive points, activating hands and filling energy. Meanwhile, for the other three movements, researchers have not found any prominent benefits in this research.

Below we will explain the connection between these movements and their relationship to the Brain Gym:

1. Water movement or drinking water is the largest compound in the human body, 70% of the human body is water. Water functions to clean the body and this water is also useful in accelerating the function of electrical and chemical energy which carries information from the body to the brain and vice versa (Yanuarita, F, 2012, p. 82). This movement is carried out because water is a conducting medium which increases the electrical potential through cell membranes and is what is most needed to ensure the function of nervous

tissue. By drinking water, students have enough energy to study, remembering that all bodily activities require water. If the body needs enough water, it will help channel energy to the brain so that the brain will carry out its functions optimally and dehydration will not occur. The purer the water you drink, the easier it is to burn, the easier it is for toxins to be removed from the body (Prihastuti, 2009, p. 40).

2. Brain exercise movements apply physical movements using the principle of crossing movements. This movement moves the extremities on one side of the body across the midline and coordinates with the extremities on the other side of the body. (Shamberg, 2009, p. 10). This cross movement causes both hemispheres to be used simultaneously. Using both hemispheres together allows us to access all sensory information and to communicate effectively, move and react to that information. A study was conducted Pereira, 2007 et al.
3. Relaxation is a movement that relaxes the body and mind, When students feel threatened, intimidated, excluded, confused, unable or physically unsafe and not relaxed, the brain will respond reflexively towards defense (fight or flight) (Kaufeldt, 2008 p. 11). A study shows that if students' minds feel calm then this will affect students' skills in reading and writing (Hartati and Agamani, 2006, p. 167). Other research suggests that Brain Gym as a form of physical activity that is fun and done regularly has a significant influence on improving the language skills of preschool children. Children's brain abilities are indirectly stimulated by Brain Gym movements (Wardani, S. R et al, 2013, p. 63). When students take a breath, oxygen intake will flow from the brain to the rest of the body and vice versa, the circulation of oxygen in the body affects brain function. If oxygen enters the brain stably, memory and brain intelligence will improve.
4. The 8 sleep movement functions to combine the left and right fields of vision, thereby increasing the integration of the left and right brain while improving body balance and coordination. This movement can improve reading, writing & comprehension skills and activate cooperation between the two hemispheres of the brain.
5. Double Scribble berThe function is to make the eyes and hands more relaxed and make writing easier (Yanuarita, F, 2012, p. 91). Drawing using their left hand can activate their right brain more effectively because the drawing activity itself trains the right brain, and can also train their left hand to stimulate their right brain to be more active. Drawing with both hands will stimulate the growth of students' creativity. Apart from that, when drawing with their left hand, students will find it difficult and unfamiliar so that when they return to drawing or writing with their right hand their writing tends to be better and neater because they previously faced difficulties in writing or drawing with their right hands that are rarely used.
6. Activating your hands works to relax your shoulders and helps you write. This movement aims to stretch the shoulder and hand muscles so that students are better prepared to write. This is in line with Jensen's statement (2011, p. 50) which states that with physical movement, the brain is able to increase circulation so that the nerves can get nutrition and oxygen. Apart from that, physical movement is also able to stimulate hormones that improve brain function.
7. Almost the same as the relaxing hook movement, one of the functions of this movement is to make the mind calmer. Taking a deep breath functions to help open the lungs so that

they can absorb energy that can repair body cells, so that the mind becomes fresher. A fresh mind can help students produce better and brighter ideas compared to when students are tired, bored and so on.

From 11 the movements taught by the author in the research, the researchers did not find a real connection between the Brain Gym movement and the 4 movements taught, namely the brain button, positive point, neck rotation and owl. Even though the function side has been explained in the previous chapter, in carrying out the research, the researchers did not find detailed benefits of these four movements. Brain Gym method focuses on brain and body activities so that the expected results are not limited to students' motor skills in writing, but researchers also want to link this Brain Gym activity with students' ability to generate ideas in an article.

Conclusion

Proficiency in writing is an essential talent that students, like other skills, must acquire. However, many students tend to dislike writing due to a lack of practice and the perception that it is challenging. It is crucial for teachers, parents, and other members of the school community to introduce innovations that will help children derive pleasure from this activity. This is because tasks that are enjoyable are typically more effortless to accomplish. Brain Gym is a compilation of uncomplicated exercises that seek to establish a connection or integration between the mind and body.

Properly executed Brain Gym activities can establish synchronization between the brain and muscles, resulting in a balanced state where tense muscles regain relaxation. In this manner, the circulation of blood can proceed unhindered, ensuring an adequate supply of oxygen to the brain, so facilitating the smooth transmission of energy to the brain. If there is good coordination between the muscles and the brain, and if energy can flow easily into the brain, it can activate the reticular formation. This activation can assist students in selecting only pertinent information, stimulate the release of endorphins to induce relaxation, and activate all three dimensions of the brain: the lateral dimension, focusing, and concentration. As a result, children can enhance their intelligence and learning abilities. In order to achieve optimal brain function and enhance learning concentration, it is important to follow such approach.

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References

- Abduh, B & Tahar, M. (2018). The Effectiveness of Brain Gym and Brain Training Intervention on Working Memory Performance of Student with Learning Disability. *Journal of ICSAR*. Vol. 2(2), hal. 105-111.
- Armia & Zuriana. (2017). Pentingnya Literasi Untuk Pendidikan Anak Usia Dini. *Langgam Bahasa*. 11 (2): 161-167.
- Azizah, L. M., Martiana, T., & Soedirham, O. (2017). The Improvement of Cognitive Function and Decrease the Level of Stress in the Elderly with Brain Gym. *International Journal of Nursing and Midwifery Science (Ijnms)*, 1(1), 26–31. <https://doi.org/10.29082/ijnms/2017/vol1/iss1/33>
- Br. Ginting, S. S. (2019). Peningkatan Kemampuan Berpikir Kreatif Matematis Dan Kemandirian Belajar Siswa Smp Ar-Rahman Medan Melalui Pembelajaran Open-Ended Berbasis Brain-Gym. *AXIOM : Jurnal Pendidikan Dan Matematika*, 8(1). <https://doi.org/10.30821/axiom.v8i1.5442>
- Branch, R. M. (2009). *Instructional Design-The ADDIE Approach*. New York: Springer.
- Cahyadi, R. A. (2019). Pengembangan Bahan Ajar Berbasis Addie Model. *Halaqa: Islamic Education Journal*, 35. doi:10.21070/halaqa.v3i1.2124
- Campbell, David. (1986). *Mengembangkan Kreativitas*. Disadur oleh A.M. Mangunhardjana. Yogyakarta: Kanisius.
- Dennison, P.E. & Dennison, G. E. (1989). *Brain Gym _ Teacher's Edition-Edu Kinesthetics (1989).pdf*. (n.d.).
- Dennison, P.E. & Dennison, G. E. (2002). *Brain Gym (Senam Otak)*. Jakarta: Grasindo.
- Faiz, A., Kurniawaty, I., & Purwati. (2020). Eksistensi nilai kearifan lokal kaulinan dan kakawihan barudak sebagai upaya penanaman nilai jatidiri bangsa. *Jurnal Education and Development Institut Pendidikan Tapanuli Selatan*, 8(4), 27– 30. <https://doi.org/https://doi.org/10.37081/ed.v8i4.2067>
- Filsaine, D. K. (2008). *Menguak Rahasia Berpikir Kritis dan Kreatif*. Jakarta: Prestasi Pustakarya.
- Gunawati, N. P. J. E., Utami, P. A. S., & Yanti, N. L. P. E. (2020). Pengaruh Brain Gym Kolaborasi Gamelan Bali terhadap Stres pada Lansia. *Jurnal Ners Widya Husada*, 4(3), 71–76. <http://stikeswh.ac.id:8082/journal/index.php/jners/article/view/319>
- Halim, S. (2002). *Senam Otak*. Yogyakarta: Cakrawala.
- Halim, S. (2018). *Berpikir Secepat Cahaya*. Yogyakarta: Cakrawala.
- Hartati, T, dkk, (2022). *Berpikir Kritis dan Kreatif Siswa Sekolah Dasar*. Tasikmalaya: PRCI.

- Heni, H., & Nurlika, U. (2021). Tingkat Konsentrasi Belajar Anak pada Siswa Kelas IV SD melalui Brain Gym (Senam Otak). *Jurnal Keperawatan Silampari*, 5(1), 222–232. <https://doi.org/10.31539/jks.v5i1.2820>
- Herbawi, D. A. L. (2018). *The effectiveness of Brain Gym® Exercises on Improving Students' Performance in classes of middle school boys in private schools in Dubai, UAE (Ethnographic October*. <https://bpace.buid.ac.ae/handle/1234/1336>
- Iswatiningsih, D. (2019). Penguatan Pendidikan Karakter Berbasis Nilai-Nilai Kearifan Lokal di Sekolah. *Satwika: Kajian Ilmu Budaya Dan Perubahan Sosial*, 3(2), 155–164. <https://doi.org/10.22219/satwika.v3i2.10244>
- Jenny, Ginting, M. B., & Tobing, P. A. L. (2020). *The Effect Of Brain Gym On The Memory Of Kindergarten Children Aged 5-6 Years In Maitreyawira School*. 384(Aisteel), 80–85. <https://doi.org/10.2991/aisteel-19.2019.17>
- Johnson, E. B. (2009). *Contextual Teaching & Learning*. Bandung: Mizan Learning Center.
- Kartadinata S, (2011). *Bimbingan dan Konseling Sebagai Upaya Pedagogis*, Bandung: UPI Press.
- Kemendikbud. (2018). *Buku Pegangan Pembelajaran Berorientasi pada Keterampilan Berpikir Tingkat Tinggi*.
- Kulkarni, C., & Khandale, R. (2019). Effect of brain gym exercises on the attention span in young adults. *International Journal of Advance Research and Development*, 4(4), 71–75. www.IJARND.com
- Muhammad, A. (2011). *Dahsyatnya Senam Otak*. Yogyakarta: DIVA Press.
- Novalianti, K. E., Susilawati, S., & Ardhuha, J. (2021). Pengaruh Model Brain Based Learning Berbantuan Brain Gym Terhadap Kemampuan Berpikir Kritis Ditinjau dari Motivasi Belajar Fisika Peserta Didik. *Jurnal Pijar Mipa*, 16(1), 49–56. <https://doi.org/10.29303/jpm.v16i1.1397>
- Piirto, J. (2011). *Creativity for the 21st Century Skills*. Sense Publishers.
- Pramesti, T. A., Sastrawan, K. B., & Wardhana, Z. F. (2018). PENGARUH BRAIN GYM TERHADAP TINGKAT KONSENTRASI BELAJAR PADA ANAK SEKOLAH Proses tumbuh kembang anak dapat berlangsung secara alamiah , tetapi proses sangat belajar ini menjadikan siswa tidak sekolah dasar di seluruh dunia di bawah koordinasi The Internat. *Bali Health Journal*, 2(1), 13–22.
- Purwanti, I., Marantika, M. A., & Adilatri, A. . S. A. (2019). Pengaruh Senam Otak (Brain Gym) Terhadap Tingkat Stres Mahasiswa (Studi Dilakukan Pada Mahasiswa Semester 8 Prodi Keperawatan Stikes Wira Medika Bali). *Bali Medika Jurnal*, 6(2), 155–162. <https://doi.org/10.36376/bmj.v6i2.78>
- Purwanto. (2009). *Evaluasi Hasil Belajar*. Surakarta: Pustaka Belajar.

- Rahman dkk. (2020). *Gerakan Literasi Sekolah*. Bandung: UPI Press.
- Rahmatih, A. N., Mauliyda, M. A., & Syazali, M. (2020). Refleksi Nilai Kearifan Lokal (Local Wisdom) dalam Pembelajaran Sains Sekolah Dasar: Literature Review. *Jurnal Pijar Mipa*, 15(2), 151–156. <https://doi.org/10.29303/jpm.v15i2.1663>
- Ramdani, E. (2018). Model Pembelajaran Kontekstual Berbasis Kearifan Lokal sebagai Penguatan Pendidikan Karakter. *JUPIIS: Jurnal Pendidikan Ilmu-Ilmu Sosial*, 10(1), 1–10. <https://doi.org/10.24114/JUPIIS.V10I1.8264>
- Rianti, E., & Dibia, I. K. (2020). *Pendekatan Paikem Berbantuan Brain Gym Berpengaruh Terhadap Konsentrasi Belajar Ipa*. *Mimbar Pgsd Undiksha*, 8 (2), 225–237. 8(2), 225–237.
- Saihu. (2019). “Pendidikan Karakter Berbasis Kearifan Lokal (Studi Di Jembrana Bali)”, dalam *Edukasi Islami: Jurnal Pendidikan Islam*, 8(1).
- Santoso, R. (2013). *The Right Brain Training*. Jakarta: PT Bhuana Ilmu Populer.
- Shufa, N.K.F. (2018). Pembelajaran berbasis kearifan lokal di Sekolah Dasar: sebuah kerangka konseptual, *Inopendas Jurnal Ilmiah Kependidikan* 1 (1), 48–53.
- Sugiyono. (2019). *Metode Penelitian Kuantitatif Kualitatif dan RnD*. Bandung: Alfabeta.
- Supriatna, M. (2020). Pendidikan berbasis Kearifan Etnik. Tulungagung. Akademia Pustaka.
- Suardiyanto, H., & Kurniajati, S. (2021). Brain Gym Untuk Meningkatkan Kognitif Dalam Motivasi Belajar Pada Siswa Sekolah Dasar (Masa Bencana Pandemic Covid-19). *Jurnalempathy Com*, 2(1), 31–36. <https://doi.org/10.37341/jurnalempathy.v2i1.49>
- Team Yayasan Pendidikan Haster. (1996). *Metode Pemanfaatan Keajaiban Otak*. Bandung: PT Pionir Jaya.
- Wafiqni, N., & Nurani, S. (2018). Model Pembelajaran Tematik Berbasis Kearifan Lokal. *Al-Bidayah: Jurnal Pendidikan Dasar Islam*, 10(2), 255–270
- Yanuarita, A. (2012). *Memaksimalkan Otak melalui Senam Otak*. Sukoharjo: Teranova Books.

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Ensuring Authentic Assessments in Higher Education – Comparing AI-Generated Responses to Case Study-Based Assessment Questions

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Abstract

The launch of OpenAI's ChatGPT in late 2022 sent ripples across higher education, particularly in attempts to detect its use by students using it to complete assignments. This paper involved a simple experiment that compared responses generated by artificial intelligence (AI) tools, namely ChatGPT and Google Gemini, in response to a case study-based Social Work assessment question. The outputs generated by these AI tools were analysed vis-à-vis a set of marking rubrics, and found that the responses were generally not of a high quality and were unable to integrate information from the case study in their responses. Although the AI tools were able to provide succinct summaries of the case study's key points, they generally performed poorly in accurately applying the specific tool to the case study, in identifying relevant legislation to the local context of the case study, as well as in producing sufficient words that addressed the question. Strategies to improve the authenticity of assessments revolve around enhancing their complexity viz. real life scenarios, and could include incorporating recent events (e.g. in the news) in the case study, having a mix of essential and peripheral information requiring students to discern and synthesize information in case study, and for marking rubrics to reward points that explicitly apply information from the case study. In sum, the quality of AI-generated responses were generally inadequate and well-crafted case studies appear to be AI tools' Achilles heel which could ensure 'authentic assessments.'

Keywords: Authentic Assessment, Artificial Intelligence, ChatGPT, Case Studies, Higher Education

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Introduction

The launch of OpenAI's ChatGPT in late 2022 sent ripples across higher education, with many excited about its immense potential to facilitate adaptive learning, provide personalised feedback, support research and data analysis, offer automated administrative services, aid in developing innovative assessments (Rasul et al., 2023), as well as in facilitating the crowdsourcing and curation of articles and learning materials, and nurturing partnerships with students to leverage "student-centered and student-guided approaches (Mills et al., 2023) in higher education.

Despite these purported benefits to enhance learning, there were also concerns about disruption within higher education, mainly in academic integrity concerns and to some extent, the ability to detect the use of AI (Artificial Intelligence) tools such as ChatGPT to complete assignments (Sullivan et al., 2023). Rasul and colleagues (2023) had articulated concerns about fairness and equity, particularly in how educators could assess students' learning if they 'cut and pasted' AI-generated responses without having engaged in the learning material.

In reality, there is a tension between and need to balance between these risks and benefits (Yahaya et al., 2023). The response to these concerns have ranged from calling for its complete ban in academic writing, to advocating for its integration to enhance students' experiences as well as learning outcomes (Benuyenah, 2023). Currently, there does not appear to be any compelling reason to endorse its use in assessments, although anecdotally there is recognition that it is currently being used by students to complete assignments. This begs the question of whether our assessments are still 'authentic' in this age of AI tools such as ChatGPT.

Proponents that espouse benefits of AI tools tend to articulate its use among academics, such as in its use to create innovative lesson plans; from the student's perspective, it could also assist in the organization and structuring of an essay, not in answering assessment questions. For the use of AI tools to become mainstream, there is need for leadership as a root support mechanism, character development as an antidote, and authentic assessment as an enabler (Crawford et al., 2023). However, at the point of writing, there is no globally accepted guidance on the use of ChatGPT in assessments.

In this regard, a group of researchers led by Dr Cacciamani from the University of Southern California have committed to undertaking a Delphi Global Cross-discipline Consensus Survey as part of the CANGARU (ChatGPT, Generative Artificial Intelligence, and Natural Large Language Models for Accountable Reporting and Use) Guidelines project. The objectives of the CANGARU project are to craft guidelines that uphold the integrity of academic and scientific endeavors when utilizing AI tools such as ChatGPT, and to develop guidelines that ensure academic integrity as well as provide guidance on the disclosure of their use in academic writing and research (Cacciamani et al., 2023).

In sum, AI tools have several benefits to enhance higher education but it is uncertain how its use might also undermine learning. Therefore, it might be prudent to educate students to avoid using ChatGPT (Sullivan et al., 2023) and examine it further before actively encouraging its use for assessments.

Use of Case Studies in Social Work Education

Case studies are a common assessment method in Social Work education as they facilitate experiential understanding (Stake, 1978), and have been known to test procedural knowledge and develop strategic skills to plan, monitor and revise approach depending on the details of the case (Carpenter, 2011).

As educators in a practice-based profession, there is an innate responsibility to ensure students are trained and able to apply knowledge to formulate an assessment and intervention. Thus far, case studies have been able to fulfill this requirement, and there is a curiosity as to how case studies in formal assessments would fare if students used AI tools to answer them.

There is minimal research in this area, with only two studies from other disciplines documenting that case studies have not been well answered by AI tools.

First, a study which tested the functionality of ChatGPT in answering exam assessment questions from two chemistry modules reported that ChatGPT was not a high-risk technology tool in relation to cheating for questions that focused on application of knowledge and interpretation in two Chemistry modules (Fergus et al., 2023).

Second, another study tested the use of ChatGPT for academic writing in the biomedical sciences and found that despite the responses generated being “systematic, precise and original”, it also lacked academic merit and depth, and was short on word count (Kumar, 2023).

Following the above, this study aims to:

1. Compare the responses generated by two AI tools (i.e. ChatGPT and Google Gemini) in response to a case study-based assessment question in the Social Work programme
2. Critically analyse if case studies can still ensure authentic assessments in the Social Work programme

Methodology

Data Collection Procedure

For the purposes of this research, two commonly used AI tools were selected to be part of this study, namely ChatGPT version 3.5, and Google Gemini (which was known as Google Bard when this research was conceptualised).

The following prompt was formulated to be input into the two AI tools and for a response to be generated in response to a typical case study:

1. “Write a 1400-word essay in response to the following case study and two questions, allocating about 80% of the response to the second question.”

The pre-determined prompt above was entered into each of the respective AI tools on 11 April 2024. Arising from the inadequate responses obtained from the first prompt, two additional prompts were devised to increase the word count and obtain relevant information to the part of the question on legislations:

2. “The word count was only about [number] words. Could you revise it so that it is closer to 1400 words?”
3. “What are some relevant legislations in Singapore that you must consider for this case study?”

All outputs were then compiled into a Word document for analysis.

Data Analysis

The two AI-generated outputs were analysed with respect to the corresponding marking rubrics that had been written for the case study, with an emphasis placed on analysing the response vis-à-vis the marking rubrics to ascertain the quality of the response, and comparing the responses across the two AI tools to identify differences between generated responses as well as their quality. Notes were written alongside the outputs during analysis.

Findings

Comparison of AI-Generated Outputs

The output generated by the first prompt for ChatGPT and Gemini were 722 and 548 words respectively. The word counts improved to 958 and 1,065 words respectively, after the second prompt. However, both AI tools still struggled to reach the word count, although both noticeably improved with the second prompt, and this was more pronounced for ChatGPT. This finding is aligned with what Kumar (2023) found in biomedical sciences field viz. AI-generated responses being ‘short of word count.’

ChatGPT	
Word count for 1 st prompt:	722 words
Word count for 2 nd prompt:	958 words
Word count for 3 rd prompt:	450 words
Total word count after all prompts:	1,408 words

Table 1: Output generated by ChatGPT

Google Gemini	
Word count for 1 st prompt:	548 words
Word count for 2 nd prompt:	1,065 words
Word count for 3 rd prompt:	218 words
Total word count after all prompts:	1,283 words

Table 2: Output generated by Gemini

AI Tools Capable of Summarizing Case Study

One strength of the AI tools was in their ability to summarise key points of the case study, which is evident in the following extract:

“This case study presents a multifaceted ethical dilemma for the social worker. G, a 17-year-old student with a history of anxiety and depression, finds herself unexpectedly pregnant. Facing an emotionally volatile home environment with her recently incarcerated father, she juggles part-time work to support the family while battling her mental health struggles. Her new relationship with K, a colleague at the fast-food chain, becomes complicated by the unplanned pregnancy. K pressures her towards an abortion, leaving her feeling unsupported and overwhelmed.” – Output from Gemini based on 2nd prompt (expanded version)

Gemini appeared to perform better at this task; however, both AI tools were unable to assess and identify the crux of the case study despite being able to summarise the key details relevant in the case.

Inability to Correctly Apply Tool to Case Study

A key finding from this exercise found that both AI tools were unable to correctly apply Dolgoff and Loewenberg’s Ethical Principle Screen (Dolgoff et al., 2012). Specifically, both ChatGPT and Gemini referred to broader ethical principles rather than the principles of the EPS tool taught in the module.

For example, the output from Gemini mentioned “Autonomy” and elaborated that “G has the right to make decisions about her own life, including whether to disclose sensitive information to her mother.” Similarly, Gemini stated “Beneficence” and that G should be encouraged to “explore all options with a non-judgmental approach.”

Of significance in the AI-generated responses was that the focus of the output was on resolutions rather than the actual application of the EPS tool. ChatGPT generated only 186 words that were assessed to be relevant to the application of the EPS, whereas Gemini generated 90 words for the same component. Interestingly, the words generated for resolutions were comparatively higher at 295 and 230 words respectively. This means that the AI-generated responses both failed to adequately address the application of the EPS.

AI-Generated Responses Struggled to Apply Relevant Local Legislations

Both ChatGPT and Gemini could not identify relevant legislations based on the first prompt. This improved with the third prompt but the responses were assessed not to demonstrate any real application. For example, although ChatGPT identified the Children and Young Persons Act, it narrated broadly what this entailed: “This act provides for the protection and welfare of children and young persons in Singapore. It addresses issues such as parental responsibilities, child protection, and juvenile justice. The social worker must consider Geraldine's status as a minor and ensure that her rights and best interests are protected under this legislation.”

This contrasts with a good human-generated response which would mention her age as qualifying to be protected under the Act, and also make linkages with pertinent information

in the case study such as her mental health status and whether she possessed the mental capacity to make an informed decision under her current circumstances, etc.

In this regard, ChatGPT fares slightly better than Gemini, although both fail to contextualise the legislations viz. the case study. Some legislations were also not stated correctly and were likely from another jurisdiction (country) and not Singapore, such as the “Mental Health Care (Amendment) Act (2014)” which could be from South Africa; in Singapore the relevant legislation would be the Mental Health (Care and Treatment) Act 2008.

Generally, the outputs from both AI tools were unable to capture the nuances, and the socio-cultural and legal uniqueness of the Singapore context. Similar to what Fergus et al. (2023) found, questions that focused on “application of knowledge and interpretation” were not easily answered.

Implications for Practice

In general, based on the experiment carried out as part of this study, it would appear that case studies can ensure authentic assessments in Social Work education, and facilitate the training of students to apply their knowledge to scenarios they may encounter in future practice settings.

What is evident is that sufficient task complexity that is encapsulated in realistic case studies that require higher-order thinking skills, and that require students to synthesise information rather than just discuss issues may not be readily answered by AI tools such as ChatGPT and Gemini. This is congruent with what Carpenter (2011) mentioned about the use of “carefully curated case studies” to test procedural knowledge.

At this juncture, it appears that AI tools are susceptible to what exists in their data banks which may not include information that is specific to more diverse socio-cultural or legal contexts. Therefore, to further enhance case studies is to also exploit the seeming Achilles heel of ChatGPT and Gemini, which is to “bring in the local context” (Liu & Bridgeman, 2023) and to involve “real-life examples and contextually specific situations” (Lee, 2023) which could increase the authenticity of assessments.

To further improve the authenticity of assessments, the following strategies could be deployed. First, case studies could be written based on recent events which may not have been integrated into the AI tool’s language model. Second, case studies should be written with both essential and peripheral information; this requires students to synthesise the information, and in so doing, to discern relevance and prioritise courses of action to take. Third, the marking rubrics should be written such that it rewards points made by the student that are explained within the context of the case study, thus demonstrating genuine application.

Conclusion

The pervasive use of AI tools such as ChatGPT and Gemini has had an impact on various spheres in society including higher education. A genuine concern exists about the ability to ensure authentic assessments in an age where AI tools can supplant the student’s ability to think for themselves and answer questions testing their learning. This study, through a simple experiment, sought to compare the responses generated by ChatGPT and Google Gemini to a

case study-based Social Work assessment question, as well as to ascertain if case studies could still ensure authentic assessments.

This study found that although AI tools were capable of summarizing the key points of a case study, their responses were lacking in several areas. AI-generated responses were short of word count, were unable to correctly and adequately apply the specific tool to the case study, and struggled to identify legislation relevant to the local context of the case study. Overall, the quality of AI-generated responses were poor vis-à-vis marking rubrics. At the time of writing, case studies appear to be able to ensure ‘authentic assessments’ in a Social Work module that adopts case studies for assessments.

References

- Benuyenah, V. (2023). Commentary: ChatGPT use in higher education assessment: Prospects and epistemic threats. *Journal of Research in Innovative Teaching & Learning*, 16(1), 134–135. <https://doi.org/10.1108/JRIT-03-2023-097>
- Cacciamani, G. E., Collins, G. S., & Gill, I. S. (2023). ChatGPT: Standard reporting guidelines for responsible use. *Nature*, 618(7964), 238. <https://doi.org/10.1038/d41586-023-01853-w>
- Carpenter, J. (2011). Evaluating Social Work Education: A Review of Outcomes, Measures, Research Designs and Practicalities. *Social Work Education*, 30(2), 122–140. <https://doi.org/10.1080/02615479.2011.540375>
- Crawford, J., Cowling, M., & Allen, K.-A. (2023). Leadership is needed for ethical ChatGPT: Character, assessment, and learning using artificial intelligence (AI). *Journal of University Teaching & Learning Practice*, 20(3). <https://doi.org/10.53761/1.20.3.02>
- Dolgoff, R., Loewenberg, F., & Harrington, D. (2012). *Ethical Decisions for Social Work Practice*.
- Fergus, S., Botha, M., & Ostovar, M. (2023). Evaluating Academic Answers Generated Using ChatGPT. *Journal of Chemical Education*, 100(4), 1672–1675. <https://doi.org/10.1021/acs.jchemed.3c00087>
- Kumar, A. H. (2023). Analysis of ChatGPT Tool to Assess the Potential of its Utility for Academic Writing in Biomedical Domain. *Biology, Engineering, Medicine and Science Reports*, 9(1), Article 1. <https://doi.org/10.5530/bems.9.1.5>
- Lee, J. (2023, May 8). *Effective assessment practices for a ChatGPT-enabled world*. Times Higher Education Campus - Resources for Academics and University Staff. <https://www.timeshighereducation.com/campus/effective-assessment-practices-chatgptenabled-world>
- Liu, D., & Bridgeman, A. (2023, January 23). *How can I update assessments to deal with ChatGPT and other generative AI? – Teaching@Sydney*. <https://educational-innovation.sydney.edu.au/teaching@sydney/how-can-i-update-assessments-to-deal-with-chatgpt-and-other-generative-ai/>
- Mills, A., Bali, M., & Eaton, L. (2023). How do we respond to generative AI in education? Open educational practices give us a framework for an ongoing process. *Journal of Applied Learning and Teaching*, 6(1), Article 1. <https://doi.org/10.37074/jalt.2023.6.1.34>
- Rasul, T., Nair, S., Kalendra, D., Robin, M., Santini, F. de O., Ladeira, W. J., Sun, M., Day, I., Rather, R. A., & Heathcote, L. (2023). The role of ChatGPT in higher education: Benefits, challenges, and future research directions. *Journal of Applied Learning and Teaching*, 6(1), Article 1. <https://doi.org/10.37074/jalt.2023.6.1.29>

- Stake, R. E. (1978). The Case Study Method in Social Inquiry. *Educational Researcher*, 7(2), 5–8. <https://doi.org/10.2307/1174340>
- Sullivan, M., Kelly, A., & McLaughlan, P. (2023). ChatGPT in higher education: Considerations for academic integrity and student learning. *Journal of Applied Learning and Teaching*, 6(1), Article 1. <https://doi.org/10.37074/jalt.2023.6.1.17>
- Yahaya, M., Umagba, A., Obeta, S., & Maruyama, T. (2023). Critical Evaluation of the Future Role of Artificial Intelligence in Business and Society. *Journal of Artificial Intelligence, Machine Learning and Data Science*, 1(1), 21–29.

Transmedia Adaptation: A Content Analysis of Audience's Perception of Chinese Intellectual Property TV Series—"The Bad Kids" on the Douban.com

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Abstract

This research paper aims to explore the audience's perception of the "transmedia adaptation" of the Chinese intellectual property (IP) TV series "*The Bad Kids*" on the popular Chinese social media platform, Douban.com. The study utilizes a quantitative content analysis approach to examine audience comments and sentiments regarding the adaptation. The research question focuses on how audiences perceive the "transmedia adaptation" and is supported by three hypotheses. The study begins by selecting a sample from the top 2000 comments on Douban.com, based on the number of likes received. The comments are analyzed in three stages: the first two weeks of the TV series' broadcast, the last two weeks of the broadcast, and the two weeks after the broadcast. Additionally, sentiment words in the comments are coded and categorized as positive, neutral, or negative. The findings reveal that audiences perceive the transmedia adaptation of "*The Bad Kids*" as more interesting to watch compared to the original novel. The suspenseful storytelling of the TV series is also found to be satisfying to the audience. Moreover, the audience shows a significant interest in the "kids' crimes" storyline in the TV series. This research provides valuable insights into audience perceptions of "transmedia adaptation" and highlights the importance of narrative structure and engaging storytelling in successful adaptations. The study contributes to the understanding of the Chinese audience's preferences and interests in transmedia storytelling.

Keywords: Transmedia Storytelling, Transmedia Adaptation, Chinese Intellectual Property (IP) TV Series, Audience's Perception, Kids' Crimes

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Introduction

In June 2020, a TV series based on the novel *"The Bad Kids"* aired on Chinese IQiYi platform and promptly received an 8.8 rating on the Douban, with over 1 million people rating it to date. Douban (www.douban.com) is a well-known Chinese social networking site. Similar to most Web 2.0 platforms, it allows users to collect, rate, and review films, TV shows, books, and music. Anyone can rate on Douban, which could potentially lead to instances of deliberate manipulation of ratings for personal gain. However, unlike professional critic scores on Rotten Tomatoes, Douban has its own platform barriers and mechanisms to prevent malicious reviews and ensure the fairness of ratings (Sina, 2015).

The practice of adapting textual narratives into visual forms has a longstanding history, dating back to Western culture in the 1980s. During this period, a notable focus was on adapting and reinterpreting globally renowned literary works, with frequent film adaptations of Shakespeare's plays and Jane Austen's classics serving as prime examples (Cartmell & Whelehan, 2013). In contrast, early Chinese novel adaptations primarily focused on Chinese literary classics such as *"Journey to the West"* and *"Dream of the Red Chamber"*. The adaptation of online novels began in 2004, and since 2010, there has been a significant surge in the adaptation of these works into films and television shows. Simultaneously, the development of video games under the same intellectual property (IP) titles has emerged, fostering the evolution of an increasingly complex industry ecosystem (Peng, 2014). Therefore, understanding how audiences perceive these adaptations within the industry is a worthwhile area of study.

One unique aspect of *"The Bad Kids"* is that it exemplifies intellectual property (IP) consistent with Henry Jenkins' theory of "transmedia storytelling". This TV series is just one part of a larger story told across multiple media. For instance, the original novel offers deeper character development and background information not available in the TV series. The comic book provides a visual representation of the story, allowing readers to see the characters from different perspectives. The game lets players interact with the story and characters, even allowing them to make choices that affect the story's outcome.

It is argued that Jenkins' theory served as a conduit for integrating contemporary aesthetic trends from the cultural realm into the domain of the film and television industry, offering a novel framework for Intellectual Property (IP) development (Ryan, 2006). Jenkins defines "transmedia storytelling" as a process where essential elements of a narrative are distributed systematically across various medium, with each medium contributing unique and valuable content to the overall storyline, thereby creating "a unified and coordinated entertainment experience" (Jenkins, 2006, n.p.). Schiller (2018) further expounds that storytelling need not be confined to a singular medium but can undergo a process of "transmedia adaptation" to leverage the unique strengths of each medium, thereby facilitating broader audience engagement (p. 100).

In recently years, many TV series have adopted the technique of "transmedia storytelling" to attract audiences and promote their intellectual properties. However, Peng (2014) argues that "transmedia adaptation" has not really matured in China, and stories based on novels are only "products for entertainment" in view of businessmen (p. 61). This paper believe that the ideal "transmedia storytelling" maximizes the functionality of each medium—starting as a novel, it can expand into television, comics, game, and so on. Each medium's narrative is complete in itself, allowing audiences to enjoy the game without needing to watch the film, and vice

versa. The IP "*The Bad Kids*" has been adapted from a novel into a television series by both Chinese and Japanese creators, and has also appeared on the Steam as a game. Therefore, "*The Bad Kids*" serves as a suitable case for studying Chinese audiences' perceptions of "transmedia storytelling".

Research Question

The research question of this study is *how audiences of "The Bad Kids" perceive the "transmedia adaptation" on the Douban*. Therefore, the author formulated three hypotheses to examine the question:

- H1.** Audiences believe that the transmedia adaptation of the TV series "*The Bad Kids*" is more interesting to watch compared to the novel.
- H2.** Audiences are satisfied with the suspenseful storytelling of "*The Bad Kids*".
- H3.** Audiences are more interested in the "kids' crimes" storyline in the TV series.

First, this paper provides a brief overview of the study's methodology. Second, it examines the three hypotheses by categorizing audiences into three distinct groups based on their responses within the sample and by quantifying and analyzing the sentiment words in the comments. Additionally, this paper integrates the findings from the content analysis with perspectives from other scholars to conduct an in-depth discussion on the characteristics and perceptions of Chinese audiences regarding "transmedia adaptation." Finally, the paper addresses the limitations of the study.

Methodology

This is a study based on a quantitative content analysis method to examine audience comments on the Douban for the Chinese IP series "*The Bad Kids*". As an observational scientific research method, content analysis is a technique for identifying specific patterns or characteristics of information through an objective and systematic approach that enables inferences to be drawn (Wimmer & Dominick, 2005, p. 151). According to Yu and Dong (2014), when content analysis is applied to study audience reviews on films, it allows researchers to gain insight into audience feedback and identify audience needs and trends (p. 22). Therefore, for this study, quantitative content analysis can be applied to understand how audiences perceive the "transmedia adaptation" of the Chinese IP series "*The Bad Kids*" through their comments on the Douban.

1. Sample Selection

This study centers its attention on an exhaustive collection of audience comments. However, owing to the substantial volume of comments pertaining to the TV series, characterized by recurrent content and format, further refinement is deemed necessary. On the Douban platform, comments are subject to two sorting mechanisms: "popular comments" and "latest comments". For the purpose of this paper, "popular comments" have been selected as the criterion for inclusion. This choice is motivated by the inherent attributes of "popular comments", which encompass a higher number of likes, enhanced relevance to the TV series, heightened interactivity, and a more concentrated focus on the evaluations and sentiments expressed by the Chinese audience regarding the adaptation of "*The Bad Kids*". Consequently, the selection of "popular comments" is anticipated to yield a more representative dataset.

The population under examination in this study comprises the top 2000 comments, determined by their highest number of likes, within the discourse surrounding "*The Bad Kids*". From this population, a random sample of 200 comments has been drawn for further analysis and investigation.

2. Coding

Determining units of analysis and establishing coding are the core of the content analysis. The units of analysis are what actually need to be coded and counted in this study. Based on the determination of the research sample, the units of analysis in this paper are the number of comments at different stages, the sentiment words in the comment text, and the categories of audience responses.

The number of comments at different stages of the series' run will give an indication of whether the transmedia adaptation is trending upwards in terms of audience interest and related topics. "*The Bad Kids*" first aired on online platforms on June 16, 2020, and aired its finale on July 14 of that year for a four-week run. This study examines the number of comments in the following three phases:

- i. The number of comments in the first two weeks of the TV series' broadcast.
- ii. The number of comments in the last two weeks of the TV series' broadcast.
- iii. The number of comments in the two weeks after the broadcast of the TV series.

The sentiment words in the comments will also be coded, and these sentiment words will be categorized as positive and negative in this study. According to the second hypothesis of this study, keywords related to "kids Crime" will also be counted when coding these sentiment words. The association of "kids' crime" with these sentiment words may reflect the attitudes and interests of the audiences in the transmedia adaptation of "*The Bad Kids*" regarding the plot of kids' crime in the TV series.

For the purpose of this study, the response categories of the audience on Douban will also be coded. Therefore, in order to study the audience's attitude and interest in the "transmedia adaptation" of the Douban, the audiences of this series are divided into the following three categories:

- i. Those who read the original novel before watching the adaptation (fans of the original novel).
- ii. Those who have not read the original novel but have played the "*The Bad Kids*" mobile game.
- iii. Those who did not know the IP and watched the adaptation directly.

By analyzing and examining these three audience categories, it is possible to understand the attitudes of audiences who had been introduced to "*The Bad Kids*" through other media (books and games) before watching the TV series, towards the transmedia adaptation of the TV series. It is also possible to examine the willingness of audiences who have only watched the TV series to engage with the story of "*The Bad Kids*" in a different medium.

Hypothesis and Analysis

The number of comments at different stages of the series' run gives an indication of whether the transmedia adaptation is trending upwards in terms of audience interest and related topics. "*The Bad Kids*" first aired on the online platform on June 16, 2020, and ran for four weeks.

This study examined the number of comments in the following three stages, and the results are shown in Figure 1.

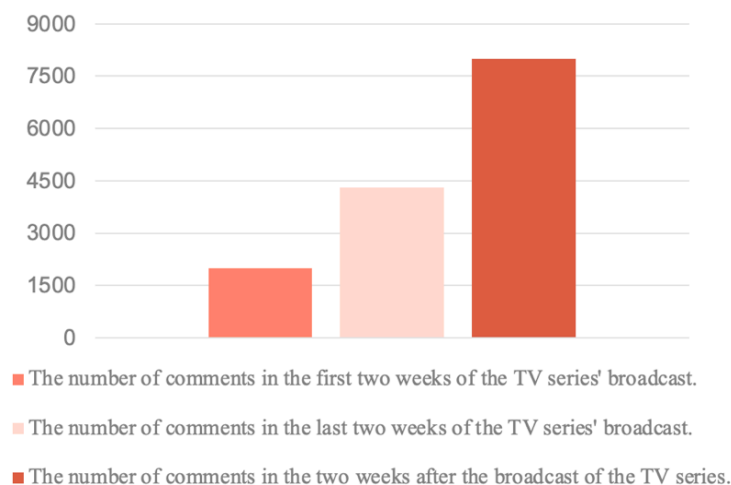


Figure 1. The number of comments

Based on the data presented in Figure 1, there is a positive correlation between the number of comments and the airing time of the series. Within the first two weeks of the series' broadcast on the Douban platform, there were 2,000 comments. The number of comments increased exponentially over the subsequent two weeks and continued to rise gradually even after the broadcast ended. This trend indicates that audience attention to "The Bad Kids" is steadily increasing on the Douban platform.

According to Cheng (2022), excluding certain external factors, higher levels of audience interaction (likes and comments) and popularity correlate with the higher completion rate of a film or TV series. This completion rate reflects how well the work aligns with public aesthetics and can be considered a measure of its success (p. 26). Therefore, it can be inferred that the transmedia adaptation of "The Bad Kids" exhibits a high degree of completion and has effectively realized the themes of the original novel.

This paper aims to test the following three hypotheses:

H1. Audiences believe that the transmedia adaptation of the TV series "The Bad Kids" is more interesting to watch compared to the novel.

In order to study the audience's attitude and levels of interest in "transmedia adaptation" on Douban.com, this study systematically categorized 200 randomly selected comments into three distinct response categories. The ensuing findings are meticulously outlined in the subsequent table.

Audience response categories	Number of audiences
Those who read the original novel before watching the adaptation (fans of the original novel).	56
Those who have not read the original novel but have played the " <i>The Bad Kids</i> " mobile game.	28
Those who did not know the IP and watched the adaptation directly.	116

Table 1. **Audience Category Statistics**

As delineated in Table 1, it becomes apparent that within the sampled cohort, 84 individuals had prior exposure to the intellectual property (IP) of "*The Bad Kids*" through alternative media channels, such as books and games, before engaging with the television adaptation. Conversely, the remaining 116 participants constituted those who consumed the TV adaptation directly, devoid of prior knowledge concerning the IP. Consequently, to initiate the investigation into hypothesis 1, this study's initial focus is directed towards an analysis of comments originating from the 84 audiences situated within the first two categories of audience response.

Rating	Content of comments
Recommended (8-10)	Although I had already read the original, the TV series was a great adaptation and I was fascinated.
Recommended (8-10)	This TV adaptation has quite a few changes compared to the original, but that appeals to me even more. The director has introduced a lot of suspenseful elements and details.
Recommended (8-10)	The TV series brings the storyline of " <i>The Bad Kids</i> " to life better than the novel, and each episode makes me eager to find out what happens next.
Recommended (8-10)	The TV adaptation is more interesting than " <i>The Bad Kids</i> " mobile game, especially for the subject of kids' crimes, it is more fascinating.
Average (6-7)	Compared to the novel, all the characters in the TV adaptation are softer and not as radical as in the novel.

Table 2. **The comment data of Douban.com (partial)**

By analyzing the content of these 84 audiences' comments, 61 of them used positive review words and gave high scores (8-10) on the Douban. And Table 2 shows partial comments from 84 audiences. From the specific comments in this category, it can be seen that the "transmedia adaptation" of "*The Bad Kids*" has gained the approval and favor of most Douban users, and has achieved positive communication effects in general.

The highest percentage of content in the sample was positive, such as "fascinating", "better than the novel", "more details", etc. This content mainly focused on the appreciation of "*The Bad Kids*" and the differences between the storyline of the TV series and the original novel. When a novel is "interpreted" as a film or television, there are inevitably two opposing camps

H3. Audiences are more interested in the "kids' crimes" storyline in the TV series.

According to the word cloud chart in Figure 2, the frequency of mentioning the keyword "kids' crimes" in the sample is relatively high.

Based on the observation, 88 comments out of the sample of 200 comments discussed the topic of kids' crime in this TV series. Accordingly, in this study, the sentiment words in 88 comments were coded into three categories: -1 for negative, 0 for neutral, and 1 for positive. The comments of the TV series were counted by positive and negative sentiment values, and the sentiment tendency of each text related to "kids' crimes" was analyzed. Table 3 shows some of the representative data.

Audience comments (partial)	Scores
The TV series is fine, but how can kids, who are supposed to be innocent, be involved in crime? It makes me uncomfortable.	-1
Set against the backdrop of kids' crime, " <i>The Bad Kids</i> " bravely explores a disturbing and thought-provoking topic. This is a precedent in China.	0
The actors in the TV series are excellent and their performances make the theme of kids' crime more real and touching.	1

Table 3. Sentiment scores and comments (partial)

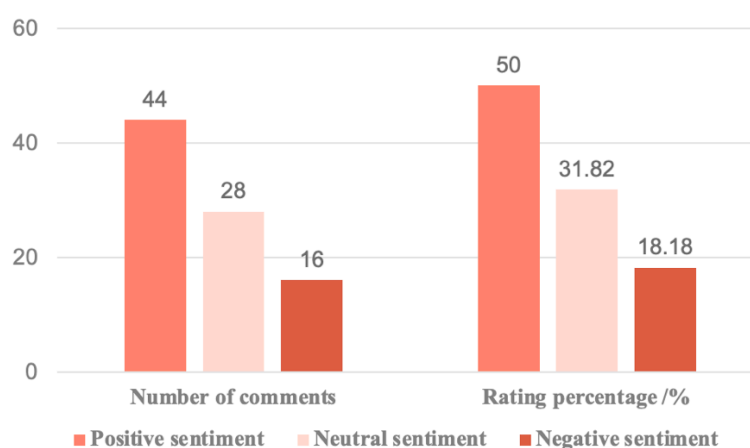


Figure 3: Results of the sentiment analysis of the "kids' crime" storyline

According to Wang and Bi (2022), "*The Bad Kids*" differs from traditional crime novels by going beyond the world of adult crime and focusing on the world of kids' crimes. Prior to this, there were no novels about kids committing crimes in China, and kids mostly showed innocence and kindness. This can be attributed to the influence of thousands of years of traditional Confucian culture in China, where everyone believes that "the nature of man is inherently good", thus a story that is not in line with the mainstream Chinese values immediately attracts attention and causes discussion (p. 103).

The analysis results, as shown in Figure 3, indicate that comments related to "kids' crimes" are predominantly positive, with 50% of the comments being positive and 18.18% negative. These findings suggest that: (1) audiences have a high level of interest in "kids' crimes"

storylines, indicating its successful departure from traditional Chinese crime narratives; and (2) the portrayal of kids' crimes in "*The Bad Kids*" opens new avenues for the increasingly homogenized Chinese film and TV adaptation industry. Therefore, hypothesis 3 is supported.

Discussion and Limitations

The above hypotheses and analysis indicate that most audiences on the Douban platform are satisfied with the transmedia adaptation of "*The Bad Kids*". Compared to the original novel, "*The Bad Kids*" employs its own adaptation strategies, with the most significant change being the softening of the novel's "dark" tone and the addition of a "warm" tone (Hu, 2020, p. 71). The study finds that this adaptation strategy not only did not disappoint fans of the original novel but also increased their interest in watching the adapted work. This is notable, as most film adaptations tend to receive more criticism.

This observation appears to support the ideal "transmedia storytelling" theory, where each medium can contribute its unique value and attract a broader audience. Based on several studies, this paper posits that the perception of "transmedia adaptation" among Chinese IP series audiences and the "transmedia works" themselves primarily face three challenges: (1) a tendency toward homogenization; (2) a disregard for the artistic quality of the works; and (3) the difficulty of pleasing all audiences with a single adaptation.

First, since its inception, the Chinese internet has been a relatively free media platform. Due to China's unique national conditions, the internet has developed differently from that in Western countries. It has become a hotbed for foreign cultures, including Western, Japanese, and Korean influences, which have introduced popular and subcultural elements (Yin & Liang, 2016). Between 2010 and 2020, Marvel Studios in the United States successfully utilized "transmedia storytelling" to adapt comic book stories such as Iron Man and Captain America into films and games, and subsequently into theme parks. This success has led to an exponential increase in the adaptation of novels and comics into films and games in China. Marvel Studios' success illustrates the potential of "transmedia storytelling" to create a unified and engaging entertainment experience across different media platforms.

However, replicating this model in China presents challenges. Many adaptation films attempt to capitalize on the popularity of Marvel movies, but they often lack creativity and are poorly executed. This leads to a loss of interest among discerning audiences and contributes to aesthetic fatigue. This trend highlights the increasing homogenization of transmedia adaptations.

Second, according to Ryan (2015), "transmedia storytelling" offers a new narrative experience, but such adaptations must not lose the artistic value of the original work (p. 12). The commercialization of adapted works often aligns with Adorno and Horkheimer's Culture Industry Theory (1973), where art in the age of mechanical reproduction employs "pseudo-difference" and "pseudo-individualization" to satisfy the public's "vanity," leading to a diminished appreciation for true artistic aesthetics (p. 154). This suggests that while transmedia adaptations can be commercially successful, they risk compromising the artistic integrity that should be preserved in such works.

Third, a classic intellectual property (IP) often has a substantial fan base before it is adapted, which is a key reason for its adaptation. However, during the adaptation process, directors inevitably make cuts or changes to the original work, potentially creating discrepancies

between the film or TV series and the source material. This divergence can be challenging, as fans familiar with the original novel naturally expect the adaptation to preserve its spirit.

Directors must navigate the delicate balance between fidelity to the original work and the creative adjustments needed for adaptation. For instance, in adapting a novel like "Harry Potter" into a film, the narrative must be fragmented and condensed to fit the cinematic format, ensuring it remains engaging and accessible to viewers (Peng, 2014). This involves retaining key plot points and character arcs while making changes that enhance visual storytelling and pacing. Such adaptations require careful consideration of what elements are essential to the story's core and how to translate them effectively into a different medium without losing the essence that captivated the original audience.

There are some limitations of this study. First of all, there may be some selection bias among audiences who watch "transmedia adaptations" on Douban.com, as these comments come from specific user groups that may be more likely to be film lovers or people of a certain age group. Second is the subjective nature of sentiment, and this paper needs to identify the sentiment polarity (positive, neutral, and negative) in the comments of audiences in the analysis. However, sentiment vocabulary may be subjective in different cultures and contexts, and the same sentence may produce different sentiment tendencies when interpreted by different people, thus the results of the analysis may be influenced by subjective factors.

Conclusion

The audience perceives "transmedia adaptation" mainly through three aspects on the Douban.com. The first is characterization. An analysis of sample comments showed that audiences used a lot of positive words to evaluate the characterization, with those who read the original novel before watching the adaptation saying that the "transmedia adaptation" of "*The Bad Kids*" made the characterization more interesting. The second is the storyline. This paper found that audience perceptions of the "transmedia adaptation" also focused on the setting of the storyline, and they were satisfied with the suspenseful elements used in "*The Bad Kids*". The third is the values that are reflected through the storyline. The storyline of "kids' crimes", which is not compatible with the Chinese Confucian culture, is very appealing to the audience, and there is not much criticism from the audience.

Despite some limitations, through content analysis, this study constructs a more nuanced understanding of audiences' perceptions of "transmedia adaptation" of this intellectual property. With the trend of media convergence, "*The Bad Kids*" can be considered as a qualified "transmedia storytelling" work in China.

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Appendix

Coding Sheet

A. Stage with the Highest Number of Comments on "The Bad Kids"

1. Number of comments during the first two weeks of the TV series' broadcast.
2. Number of comments during the last two weeks of the TV series' broadcast.
3. Number of comments during the two weeks following the broadcast of the TV series.

B. Audience Category Most Attracted to the Transmedia Adaptation

1. Individuals who read the original novel before watching the adaptation (fans of the original novel).
2. Individuals who have not read the original novel but have played the "The Bad Kids" mobile game.
3. Individuals who were unaware of the IP and watched the adaptation directly.

C. Sentiment Category with the Highest Percentage of Comments Referring to the Keyword "Kids' Crimes"

(Scoring Criteria: -1 for negative, 0 for neutral, 1 for positive)

1. Positive comments
2. Neutral comments
3. Negative comments

References

- Baines, L. (1996). From Page to Screen: When a Novel Is Interpreted for Film, What Gets Lost in the Translation? *Journal of Adolescent & Adult Literacy*, 39(8), 612–622. <http://www.jstor.org/stable/40015652>
- Cartmell, D., & Whelehan, I. (2013). *Adaptations: From text to screen, screen to text*. Routledge.
- Cheng, X. (2022). Analysis of Data and Content on the "Douban Film" Website: A Case Study of Domestic Films in 2021. *Chinese Film Market*, 7, 23-30.
- Geraghty, L. (2018). Transmedia Character Building: Textual Crossovers in the Star Wars Universe. In S. Guynes & D. Hassler-Forest (Eds.), *Star Wars and the History of Transmedia Storytelling* (pp. 117–128). Amsterdam University Press. <https://doi.org/10.2307/j.ctt207g5dd.12>
- Horkheimer, M., & Adorno, T. W. (1973). The Culture Industry: Enlightenment as Mass Deception. J. Cumming (Ed.), *Dialectic of Enlightenment* (pp. 120–167). Allen Lane.
- Hu, X. (2020). Zijin Chen: I'm not going to write an "impossible crime". *Fang Yuan Magazine*, 70-73.
- Jenkins, H. (2006). *Convergence Culture: Where Old and New Media Collide*. NYU Press. <http://www.jstor.org/stable/j.ctt9qffwr>
- Peng, L. (2014). Analysis of the causes of the hot adaptation of online novels for film and television. *Journal of Guangdong Radio and Television University*, 23(004), 60-63.
- Ryan, M. (2006). *Avatars of story (Electronic mediations; 17)*. Minneapolis, Minn.: Bristol: University of Minnesota Press.
- Ryan, M. (2015). Transmedia Storytelling: Industry Buzzword or New Narrative Experience? *Storyworlds: A Journal of Narrative Studies* 7(2), 1-19. <https://doi.org/10.5250/storyworlds.7.2.0001>.
- Schiller, M. (2018). Transmedia Storytelling: New Practices and Audiences. In I. Christie & A. van den Oever (Eds.), *Stories* (pp. 97–108). Amsterdam University Press. <https://doi.org/10.2307/j.ctv5rf6vf.10>
- “10 years of the Douban: 100 million literary youths become style when they are together” by Sina: <http://tech.sina.com.cn/i/2015-03-21/doc-iawzuney0948206.shtml>
- Wang, L.P., & Bi, M.Y. (2022). Narrative clues and strategies of the online suspense TV drama "The Bad Kids". *Contemporary TV*, (10), 100-105.
- Wimmer, R.D., & Dominick, J.R. (2005). *Content Analysis, in Mass Media Research: An Introduction*. Wadsworth Pub., 149–177.

Yang, Zeng. (2019). *A study on the evaluation of Chinese movies on foreign movie review websites [D]*. Shanghai University Press.

Yin, H., & Liang, J. J. (2016). Diverse film cultures leading to a well-off society - Chinese film production in 2015. *Contemporary Cinema (3)*, 4-12.

Yu, T.J., & Dong, S.W. (2014). A Study on the Types and Characteristics of the Most Popular Online Film Reviews on Douban.com. *Movie Literature, (11)*, 22-23.

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***The Impact of Work as an Indonesian Worker Abroad on Changes in
the Function of Parents and Children's Education***

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Abstract

This research aims to find out how children develop who are left behind by parents who work abroad in Pringgarata Village, Pringgarata District, Central Lombok Regency, West Nusa Tenggara, Indonesia. This research uses a qualitative descriptive method involving observation, interviews and documentation. This research uses a case approach to study the influence of parents working abroad on the development of abandoned children in Pringgarata Village, Pringgarata District, Central Lombok Regency, West Nusa Tenggara, Indonesia. The data analysis techniques used are data reduction, data presentation and data verification. Primary data were obtained by researchers using written records derived from interviews with village heads, or staff at the village office, and residents in Pringgarata Village, Pringgarata District, Central Lombok Regency. In the case of secondary data, researchers collect data through book sources, scientific magazines, personal documents, and official documents needed to complete the data studied. The research results show that parents who work abroad cannot carry out the parental function of educating, directing and caring for children, so these functions are replaced by substitute parents. These findings have implications for policies and programs to support children left behind by parents working abroad, such as the development of more effective educational programs and psychosocial assistance to help them cope with this situation.

Keywords: Indonesian Worker Abroad, Parent, Children Education

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Introduction

Parents are part of a family. The family is a related social structure in the organization of society. In the family, parents have a strategic role and function in educating, nurturing, and guiding their children for the continuity and success of their children's education (Ruli, 2020). In reality, not all parents can do this. There are several conditions that allow children to only get care from one of their parents, or even not at all. One of them is a child whose parents left behind becomes (Indonesian Labor) abroad, causing the role of parents to be replaced by other families such as grandmothers, grandfathers, aunts or other families (Suharto & Nurwati, 2018).

IWA is an Indonesian workforce carried out by both men and women who work abroad to provide for their families. Currently, many Indonesian citizens work as migrant workers abroad, as well as many NTB citizens who work as migrant workers. No exception, many residents in Pringgarata Village also work as migrant workers. Pringgarata Village is one of the villages that lacks job opportunities for people who are already married and the level of education of parents is not in accordance with existing jobs, so the role of parents must work abroad to become IWA to earn enough income for school needs and the continuity of children's education.

According to preliminary observations made on January 5, 2022, of Pringgarata Village Office staff, who explained that in Pringgarata Village there were 63 people who were registered or legal as IWA at the Village Hall, while those who were unregistered or illegal at the Village Hall were around 1,500 people. People in Pringgarata Village prefer to be illegal because they are lazy to take care of documents and the process is very long. Being a IWA is one of the solutions for family welfare, especially family economic welfare, for children's school needs and for the continuity of children's education. The development of education in children is a factor of basic needs for every human being in an effort to educate the life of the nation, because through education the improvement of people's welfare can be realized (Hamid et al., 2021).

Education is a process of activity that is common in human life, because wherever and whenever in the world there is an educational process. Education is essentially an attempt to civilize man or to glorify man. For the implementation of education properly and appropriately, a science is needed that examines in depth how education should be implemented. The science on which this is based must be tested for truth. This science is the science of education. Education without knowledge will lead to the non-achievement of educational goals (Uno & Lamatenggo, 2016).

The importance of education in today's community life to educate and develop potential in children. By growing and developing, each individual can have broader knowledge and become a responsible person. The education that children first get is education in the family environment (informal education), school environment (formal education), and community environment (non-formal education). The impact on children's education is quite serious. Children with biological parental supervision are certainly different from children who are allowed to learn on their own (Uno, 2022). Togetherness of parents is very necessary because those who understand the level of development and the things they need, togetherness with children begins from the unborn child until they are teenagers, tailored to the needs of each child (Rina Miftakhi & Ardiansah, 2020).

The importance of parents in children's education has been realized by many parties (Prima, 2020). When parents work as migrant workers, it will have a positive impact on family welfare in terms of fulfilling money and costs for the continuity of children's education, but also have a negative impact including not being able to carry out parental functions such as educating, guiding, caring for children fully. Researchers conducted a study in Pringgarata Village, Pringgarata District, Central Lombok Regency where there are many parents who work as IWA for the continuity of children's education, to examine how the impact of parents as migrant worker on the sustainability of children's education.

From the above problems, it can be concluded that it is migrant workers who attract researchers to raise a study entitled " The Impact of Work as an Indonesian Worker Abroad on Changes in the Function of Parents and Children's Education (Case Study in Pringgarata Village, Central Lombok Regency). In order to study or find the types of problems mentioned by the researcher will use a descriptive qualitative approach.

Research Method

The method used in this study is using qualitative methods. Qualitative research methods are often called naturalistic research methods because the research is carried out in natural settings (Sugiyono, 2019). Qualitative approach is an approach that is in the nature of building broader knowledge, with a qualitative approach, renewal of science can be done by looking for sources of knowledge such as those sourced from individual experience, social values, history and many more that can be used as sources by this approach. So that with this approach, the theories to be built can be realized (Laksana, 2020).

The type of approach used in this study is a qualitative approach with a descriptive type. Descriptive type qualitative research is a method that examines a certain group, an object, a condition, a system of thought and a principle in the present (Umar, 2013). This research was conducted in Pringgarata Village, Pringgarata District, Central Lombok District, West Nusa Tenggara. Data collection techniques used are observation, interviews and documentation. The data analysis techniques used are data reduction, data presentation and data verification. Primary data were obtained by researchers using written records derived from interviews with village heads, or staff at the village office, and residents in Pringgarata Village, Pringgarata District, Central Lombok Regency. In the case of secondary data, researchers collect data through book sources, scientific magazines, personal documents, and official documents needed to complete the data studied.

Result & Discussion

General Description of Pringgarata Village, Pringgarata District, Central Lombok Regency

Pringgarata Village is one of 11 villages in Pringgarata District, Central Lombok Regency. Pringgarata Village is one of the villages in Pringgarata District which is in the middle of the District Government, so the problems in all fields faced by the Village Government are very complex. Pringgarata Village is the result of the expansion of Sepakek Village approximately 65 years ago and until now there have been 5 changes of Village Heads in which all Village Heads have contributed a lot to the progress of Pringgarata Village; The Village Heads include: Alm Bapak Muhtar, Alm. Bapak H. Lalu Mahyidin, , Alm. Bapak Wagiman, Bapak Idham Halid, Bapak Surya Darma, SH. Bapak Khaeril Anwar, SH.

The word Pringgarata is a term or abbreviation of 2 (two) words, namely "Edge" which means Edge / Sedi (Sasak language) while "Rata" which means flat / rate (Sasak language) so Pringgarata means flat edge (meaning of geographical location) while the climatologic meaning is "Commensurate goals to achieve the same goal marginalizing the interests of groups / groups" (Documentation, Profile of Pringgarata Village, Pringgarata District, Central Lombok Regency, quoted on June 20, 2022).

State of Population

The total population in Pringgarata Village, Pringgarata District, Central Lombok Regency is 11,439 people, divided into 5,593 male residents and 5,846 female residents (Village Profile Book of Pringgarata District, Central Lombok Regency, quoted on June 20, 2022).

Table 1. Number of Population by Education

No	Types of Education	Sum
1	Bachelor S1, Magister S2	98
2	Diploma D1, D2, D3	127
3	Senior High School	928
4	Junior High School	1.465
5	Elementary School	7.175

The main livelihood of Pringgarata villagers is farmers and traders, the application of technology in agriculture, trade and handicraft and the skunder sector began to develop. Although the latest data collection indicates a development at the economic level of the community, of the 4,727 existing households, as many as 1,972 households are still classified as poor, still classified as indigent (Data sources, Jamkesmas and Jamkesda), even though there are still many heads of families who apply for Certificate of Incapacity to get recommendations for exemption from fees at the hospital or for their children's education.

This shows how weak the economic condition of the community is due to the very low source of livelihood and labor force. For more details can be seen in the following table.

Table 2. Number of Population by Type of Occupation

No	Types of Education	Sum
1	Bachelor S1, Magister S2	98
2	Diploma D1, D2, D3	127
3	Senior High School	928
4	Junior High School	1.465
5	Elementary School	7.175

Table 3. People of Pringgarata Village who become Indonesian Workers Abroad registered at the Village Hall

No	Name	Address	Country Placement
1	Yogi Putra	Dasan Baru	Japan
2	Sunnah Jamaah	Pengenjek	Malaysia
3	M. Irfan	Pringgarata	Malaysia
4	Kurniadi	Pringgarata	Malaysia
5	Jaiyah	Kwangjukut	Malaysia

6	Siti Wakiyah	Pringgarata	Malaysia
7	Ardi	Telabah Baru	Malaysia
8	Khairul Fahmi	Kwangjukut	Malaysia
9	Supardi	Pringgarata	Malaysia
10	Andur	Kwangjukut	Malaysia
11	Suparwadi	Pringgarata	Malaysia
12	Hirwan	Pringgarata	Brunei
13	Mustam Effendi	Dasan Baru	Malaysia
14	Khairul Hadi	Dasan Baru	Malaysia
15	Mariani	Pengenjek	Brunei
16	Winda Rohayani	Pengenjek	Brunei
17	Mahnun	Pringgarata	Malaysia
18	Muhammad Saidi	Telabah Baru	Malaysia
19	Sahli	Telabah Baru	Malaysia
20	Jundi Awal	Telabah Baru	Malaysia
21	Najamudin	Telabah Baru	Malaysia
22	Junaidi	Gunung Agung	Malaysia
23	Murdi	Pringgarata	Malaysia
24	Idin	Dasan Baru	Malaysia
25	Wahyu Dani	Penimbung	Malaysia
26	Lukmanul Hakim	Pringgarata	Malaysia
27	Irsan Hadi	Pringgarata	Malaysia
28	Ika Subagia	Dasan Baru	Malaysia
29	Heri Susanto	Dasan Baru	Malaysia
30	M. Zikrul Pajri	Pringgarata	Malaysia
31	Shaman	Pringgarata	Malaysia
32	Parhanudin	Pringgarata	Malaysia
33	Darman	Pringgarata	Malaysia
34	Wardi	Kwangjukut	Malaysia
35	Syarifudin	Kwangjukut	Malaysia
36	Abdul Hadi	Kwangjukut	Malaysia
37	Samsul Hidayat	Kwangjukut	Malaysia
38	Muslim	Kwangjukut	Malaysia
39	Tomi Kurniawan	Kwangjukut	Malaysia
40	Husnul Naim	Pringgarata	Malaysia
41	Sunaah	Pringgarata	Malaysia
42	Moh. Samsir	Pringgarata	Malaysia
43	Sabri Rais	Telabah Baru	Malaysia
44	Suhadi	Dasan Baru	Malaysia
45	Mustiadi	Dasan Baru	Malaysia
46	Ulul Azmi	Pengenjek	Malaysia
47	Sohirman	Pengenjek	Malaysia
48	Muhamad Anas	Dasan Baru	Malaysia
49	Husnul Fitman	Pringgarata	Malaysia
50	Khaerul Anwar	Gunung Agung	Malaysia
51	Moh. Awaludin	Gunung Agung	Malaysia
52	Jamaludin	Pringgarata	Malaysia
53	Usman Ali	Telabah Baru	Malaysia

54	Anifah	Pringgarata	Malaysia
55	H. Jaelani Muzhar	Pringgarata	Saudi Arabia
56	Marzuki	Pringgarata	Malaysia
57	M. Azwar	Pringgarata	Malaysia
58	Hj. Fatmah	Pringgarata	Malaysia
59	Hj. Haeriah	Dasan Baru	Malaysia
60	Marni	Kwangjukut	Saudi Arab
61	Hilmi Najamudin	Pengenjek	Malaysia
62	M.Zaini Dahlan	Pengenjek	Malaysia
63	Rini	Pengenjek	Malaysia

Functions of Parents Working as Migrant Workers

In Pringgarata Village, Pringgarata District, Central Lombok Regency, many parents leave their children abroad due to economic factors and difficulty finding work. Because they could not get a job in their village due to the low level of education they had, they had to go abroad to meet the needs of their families and children's education.

The number of parents who become migrant workers in Pringgarata Village is quite large, some are legal and illegal. Those who are legal are recorded by the village, the number is approximately 63 people consisting of men and women. But many also departed illegally, generally they are not known with certainty by the village, their number is estimated at thousands of people.

The migrant workers from Pringgarata Village are generally mostly women consisting of housewives and teenagers. Their destinations are mostly migrant workers to Malaysia and Saudi but there are also those who go to Taiwan, Abudabi but the number is small. The number of Pringgarata residents who become migrant workers is more female than male residents because the tekong recruits more women than men in Pringgarata Village. This is because the needs in the country where they will work are sought after as domestic helpers. In addition, women become more migrant workers than men because the cost of becoming a migrant worker is cheaper and easier.

When parents work abroad as migrant workers in Pringgarata Village, their functions are replaced by surrogate parents, in this case the migrant worker family itself, namely (grandmother, grandfather, father, bibik, brother). The functions of parents are as follows:

1. The Function of Parents in Education

The family is the first educational institution for children. The family is the world of the first child, who contributes mentally and physically to his life, including the crucial role is the function of parents in educating children (Pahlevi & Utomo, 2022). Nurturing, raising and educating children is a noble task that cannot be separated from various obstacles and challenges. Children are unique individuals who have their own existence and soul, and have the right to grow and develop optimally. The world of children is always full of surprises, all curious, always exploring as well as the world of play and learning (Suteja & Yusriah, 2017). The function of educating, of course, must have closeness between children so that children are able to understand everything given by parents. Nurturing, raising and educating children is a noble task that cannot be separated from various obstacles and challenges. Children are unique individuals who have their own existence and soul, and have the right to grow and

develop optimally. The world of children is always full of surprises, all curious, always exploring as well as the world of play and learning.

For parents who work as migrant workers in Pringgarata Village, of course, educating children is not an easy thing for their children because they are hindered by distance so they are only able to cooperate through electronic media. The main role of parents is to nurture, guide, nurture and educate children to become intelligent, intelligent and moral. In addition, as parents must be able to provide facilities or children's needs in learning to improve children's learning outcomes (Nainggolan, 2020). Looking at the function of education, in Pringgarata Village, the implementation of educating children as part of the function of parents carried out by surrogate parents, namely (Grandma, grandfather, bibik, brother) can be said to have not been optimal in providing education for their children. The role of parents is the pattern of behavior of fathers and mothers in the form of responsibility to educate, nurture and guide their children to reach certain stages that lead children to be ready for community life (Elvira et al., 2019).

According to Efrianus Ruli, among the functions of parents in educating children that must be carried out are (Ruli, 2020):

- a) Give direction with love and compassion
- b) Teach children not to be bad towards those around them
- c) Diligent in being a good listener
- d) Taking time to play together

Pringgarata Village is that parents who become migrant worker cannot carry out functions in educating optimally, they cannot carry out functions such as not being able to always give directions to children, teaching children to be kind, being good listeners, taking time to learn together due to long distances and busy parents at work. The process of educating children when working as migrant worker is a problem for parents who become migrant worker. Parents who work as migrant workers will not be able to carry out the function of educating their children. For parents who work as migrant workers, of course, they are only able to communicate through electronic media. They communicate with their children, even then not every day but some once a week and twice a week. Even though through continuous care, care and supervision, the child's self and personality will be formed (Gusmanianti & Suweleh, 2019).

Parents who work as migrant workers have not been able to carry out the function of educating a child because there are many things that become problems such as distance, ability and others. Parents in Pringgarata Village who work as migrant workers give the responsibility of educating the closest relatives. The educational functions that should be performed by parents are transferred and carried out by surrogate parents. In this case, there are families whose educational functions are carried out more jointly by the relatives and parents of the migrant worker concerned, such as the case of Mrs. Mariani's family. Mr. Mus and his wife, Mrs. Mariani, are one of the migrant workers in Pringgarata Village who works in Malaysia. The function in educating her children is carried out by the brother of Mrs. Mariani who is assisted by the mother of Mrs. Mariani. When Ibu Mariani and her husband in Malaysia became migrant workers they asked her brother and mother to take care of, educate their children. They only communicate via mobile phone with the family left behind, sometimes once a week. Likewise with one of the cases experienced by Mrs. Sulaiha's family. Ibu Sulaiha became a migrant worker to Malaysia. Sulaiha's mother has two sons, one married and one still in school. This family is still luckier than the family of Mr. Mus and

Mrs. Mariani above. Because in this family, only his wife became a migrant worker while his father remained in Pringgarata Village working odd jobs. The function of educating in this family is carried out by Mr. Farwadi and assisted by his son-in-law, Nita.

Parents who work abroad give the mandate to surrogate parents or other families to always supervise children, but even so the way to educate surrogate parents will definitely be different from biological parents, because surrogate parents also have other activities, even though biological parents give trust to surrogate parents, the function of parents in educating is not carried out optimally by surrogate parents. As said by Mrs. Mariani as a parent of migrant workers in an interview on July 29, 2022, "Educating children while still abroad, of course, all parents will not be able to educate children optimally because of the long distance. My husband and I can only advise them to always be kind to friends, don't like to fight to their elders, can only remind children to be polite children, not to skip school, diligently go to recite, diligently study to be good children so that unlike me and my husband who become migrant worker, we can only contact by phone even then I call the children once a week."

Parents of migrant workers can only monitor the child's development only by telephone. The function of parents in educating can be carried out by migrant worker parents in directing children to be kind to people around, giving directions with soft speech. Migrant worker parents cannot accompany children while playing and learning together so that the role of migrant worker parents is replaced by surrogate parents, namely grandmothers, aunts, older siblings or other families. The family where only his mother became a migrant worker and the child was taken care of by his father. Although the child is taken care of by his mother, but the father is also not necessarily able to carry out the function of parents in educating children because it will be difficult for a father to replace the position of a mother. As stated by Mr. Farwadi in an interview on August 2, 2022, "Even though migrant worker mothers entrust children to their fathers, fathers may not be able to carry out their functions in educating children optimally. Fathers can only carry out the function of educating in giving direction to children with love and affection, I always remind children to go to school only and other educational functions are not carried out." He concluded.

2. The Function of Parents in Guiding

Parental guidance is a guide or explanation of how to do something done by parents to their children. So among the parents who are worthy of giving guidance to their children in a family are father and mother (Susanti, 2020). The main role in guiding and meeting the needs of children in learning is parents. With limited time due to the busyness of each parent, parents give some of their responsibilities in guiding children in learning to education providers or often called schools, but it does not mean parents release their responsibilities in education (Burhanudin et al., 2022).

When parents work abroad, parents will find it difficult to guide children, but parents must always try to be good parents for their children. When parents work as migrant workers, this guiding function cannot be carried out by migrant worker parents and replaced by surrogate parents, such as (grandmother, grandfather, aunt, brother). According to Nafisah Wahdan, among the functions of parents in guiding children that must be carried out by him, are (Busra, 2019):

- a) Guiding children to increase learning motivation
- b) Guide children to learn well

Pringgarata Village, Pringgarata District, Central Lombok Regency, parents who work as migrant workers cannot carry out parental functions in guiding children fully, because the distance is so far from their children. Parents of migrant workers cannot carry out their functions in guiding their children because of problems with very long distances. Guiding children in the learning process, parents who work as migrant worker give responsibility to surrogate parents, namely (grandmother, grandfather, aunt, brother) so that the guidance process can be carried out. The process of parental tutoring certainly cannot be separated from the role of parents even though they use all means both online and the help of others. Because basically children's learning is something that must be prioritized so that it will require parental guidance. Parental guidance is a role that must be carried out for each parent to the child himself so that the learning process can be carried out properly.

When supervised and guided by parents because the closeness of parents will affect a child in learning. For migrant worker children in Pringgarata Village, supervision and tutoring are actually lacking so that many children are not optimal in participating in learning. Therefore, this problem is a material that must be evaluated by migrant worker parents so that the child's learning process can be maximized. The right parenting style will form children who have positive social intelligence. The ability to process emotions and socially well in oneself and others, using those feelings to guide thoughts and actions (Robbiyah et al., 2018).

When parents become migrant worker, in Pringgarata Village, those who replace their position in guiding children are surrogate parents, although migrant worker parents give trust to surrogate parents such as (grandmother, grandfather, brother, aunt, uncle) but surrogate parents can also be said to be not optimal in guiding children because surrogate parents also have activities not as much as biological parents in guiding children. migrant worker families in the guiding function are carried out by surrogate parents. There are those who carry out such as the mandate given by migrant worker parents, there are also surrogate parents who cannot carry out functions in guiding children. As stated by Nita. Sometimes many children who are left by their parents abroad make the child's behavior not good even though it is entrusted to grandma or other families. This bad behavior is caused by lack of supervision or guidance in children's associations so that children imitate negative things in their associations.

Being a migrant worker is an action that has a risk or negative impact on their children because basically a child will need parents when they are still in the stage of child self-development. Of course, the lack of parental assistance to children affects all aspects of the child's behavior in learning, socializing and managing the child's behavior. Therefore, it is necessary that parents must be able to guide their children both supervising others and personally so that children can feel affection and follow learning optimally.

3. The Function of Parents in Caring for Children

Parents as role models for children, and a place to ask questions in everything that children want to know. Education in the family must be arranged in such a way that all aspects of education are summarized in the pattern of good life habits every day. Ideally, parents should be ready to answer and give direction to children every day, while the problem that will arise is whether there is quality time with family. Not all parents have a lot of time for family. Busy working hours, and less attention, especially for children, will be very different from parents whose fathers work and are housewives. In terms of attention of different intensity,

communication, guidance carried out, it will be very likely to have different effects for children (Ismail et al., 2021).

The function of caring for children is to meet children's needs such as regular feeding, clothing needs, helping children to clean themselves, helping children to do schoolwork and providing affection. Parents as migrant workers do not have much time to control children's development, especially in the continuity of children's education. According to Epi Widyawati, among the functions of parents in caring for children that must be carried out by them are (Ngewa, 2019):

- a) Meeting children's needs such as feeding regularly, clothing needs, helping children to clean themselves, telling children to go to school, reciting and others.
- b) Provide facilities and facilities to support learning.

In an education, of course, students or a child really need various educational needs both equipment, equipment, educational facilities and others. Educational needs are a provision of educational materials so that education can be carried out as expected. Therefore, parents must be able to provide children's educational needs so that children can carry out the education, especially for parents who work as migrant worker where parents who work as migrant worker must be able to provide children's educational needs because basically children's needs are the responsibility of parents in children's education. Pringgarata Village, Pringgarata District, Central Lombok Regency, that the function of parents in caring for children is difficult for migrant worker parents to carry out because of the long distance. So that it will be assisted by surrogate parents in carrying out the function of parents in caring for children to feed children, helping children to clean themselves helping children to do tasks is surrogate parents, but the function of caring in providing facilities to support learning, meeting family needs and children's school fees is carried out by migrant worker parents.

Parents who work as migrant in their function of providing children's needs must certainly be done both by sending money to buy all the needs and equipment needs. The purpose of parents becoming migrant worker is none other than to meet family needs, both children's education, family food and all other family needs. Parents in carrying out educational functions always look at the condition of children's education both by meeting the educational needs of children and the needs of other families. The purpose of this is that a child is able to be better than his parents so that later a child is not the same as his parents.

Positive and Negative Impact of Parents Working as Migrant Workers on Children's Education

Good education will produce good children, and vice versa, therefore many parents are willing to work hard to provide for the family economy and so that their children get a good and decent education, so many parents go abroad to improve and provide for their family economy. Because only then do they feel they can meet the needs of their families and children, even so it is highly recommended for parents not to just let go of their children, a child also needs and really needs love from his parents not only in terms of material things that are desired from parents but sincere affection and concern for the child (Hamid et al., 2021).

1. The negative impacts for children abandoned by parents in working as migrant workers in Pringgarata Village, Pringgarata District, Central Lombok Regency are:

- a) Lack of affection and interaction with parents
The lack of affection and interaction with parents here makes children feel jealous so that children's motivation to learn is very strong. Because at school age parental affection or attention becomes very important, but in reality it is less felt by children. For children, education does not only begin when children enter the world of formal education, education in the family environment is the first place for children to learn many things (Anggraini, 2021).
 - b) Behavior that tends to be unruly
Lack of supervision and guidance will affect the behavior or behavior of children where promiscuity will bring them to be less good due to lack of supervision from parents. Children are even more willing to take risks than when they grow up. They are more confident performing terrible dexterity such as climbing an object, running fast and like to race with their peers even with their parents (Mawar et al., 2021). The role of parents in accompanying children's success becomes very central, Parents initially play a role in guiding basic attitudes and skills, such as religious education to obey rules, and for good habituation, so that later it will form good habits as well (Kurniati et al., 2020).
 - c) Lack of guidance and supervision in learning
Supervision and tutoring are steps by parents so that children continue to follow the learning process both from home and educational institutions. However, for children whose parents work as migrant worker, supervision and tutoring are actually lacking, so many children are not optimal in participating in learning. As conveyed by Nita. Sometimes many children who are left by their parents abroad make the child's behavior not good even though it is entrusted to grandma or other families. This bad behavior is caused by lack of supervision or guidance in children's associations so that children imitate negative things in their associations. Not only that, many parents only fulfill all the wishes of the child, by meeting material needs but problems of education, praiseworthy morals, affection, tend to be ignored. As a result, teenagers will have bad qualities (Fatimah & Nuraninda, 2021).
2. The positive impact on the education of TKI children in Pringgarata Village, Pringgarata District, Central Lombok Regency:
 - a) Fullness of the economy
It can be said that becoming a migrant worker in Pringgarata Village is a step for someone to meet economic needs.
 - b) Fulfillment of children and educational needs
Basically, children's education is something that must be fulfilled so that the child can develop their potential so that they become qualified human resources and are able to get jobs easily. The treatment of parents towards children, is an element of coaching in the child's person (Afni & Jumahir, 2020). Therefore, the positive thing received in working as a migrant worker in Pringgarata Village is the fulfillment of the educational needs of their children.

Conclusion

Based on the results of research, observations and interviews that have been conducted by the author, the results of this study can be concluded as follows: The function of parents in educating, guiding and caring for children cannot be carried out by migrant worker parents in Pringgarata Village in full, because of the long distance and busy work. The functions of educating, guiding and caring for children are transferred and carried out by surrogate parents

or foster parents, namely (Grandmother, grandfather, aunt, uncle, brother). The negative and positive impacts of parents who work as migrant workers in Pringgarata Village on children's education. The negative impact is lack of affection and interaction with parents, behavior that tends to be unruly and lack of guidance and supervision in learning. While the positive impact is the fullness of the economy and the fulfillment of children's educational needs.

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References

- Afni, N., & Jumahir, J. (2020). Peranan Orang Tua dalam Meningkatkan Prestasi Belajar Anak. *Musawa: Journal for Gender Studies*, 12(1), 108–139. <https://doi.org/10.24239/MSW.V12I1.591>
- Anggraini, N. (2021). Peranan Orang Tua Dalam Perkembangan Bahasa Anak Usia Dini. *Metafora: Jurnal Pembelajaran Bahasa Dan Sastra*, 7(1), 43–54. <https://doi.org/10.30595/MTF.V7I1.9741>
- Burhanudin, I., Munawaroh, N., & Tutun Usman, A. (2022). Pengaruh Bimbingan Orang Tua Di Masa Pembelajaran Jarak Jauh (PJJ) Terhadap Prestasi Belajar Siswa (Penelitian di Kelas XI SMA Ciledug Al-Musaddadiyah Garut). *Jurnal Pendidikan Agama Islam*, 1(1). <https://journal.uniga.ac.id/index.php/JPAI/article/view/1669>
- Busra, A. (2019). Peranan Orang Tua Terhadap Pembinaan Akhlak Anak. *AL-WARDAH: Jurnal Kajian Perempuan, Gender Dan Agama*, 12(2), 123–130. <https://doi.org/10.46339/AL-WARDAH.V12I2.140>
- Elvira, B., Sukmanasa, E., & Muhajang, T. (2019). Peran Bimbingan Belajar Orang Tua Terhadap Disiplin Belajar Siswa. *Jurnal Pendidikan Dan Pengajaran Guru Sekolah Dasar (JPPGuseda)*, 2(2), 87–90. <https://doi.org/10.55215/JPPGUSEDA.V2I2.1452>
- Fatimah, S., & Nuraninda, F. A. (2021). Peranan Orang Tua dalam Pembentukan Karakter Remaja Generasi 4.0. *Jurnal Basicedu*, 5(5), 3705–3711. <https://doi.org/10.31004/BASICEDU.V5I5.1346>
- Gusmaniarti, G., & Suweleh, W. (2019). Analisis Perilaku Home Service Orang Tua terhadap Perkembangan Kemandirian dan Tanggung Jawab Anak. *Aulad : Journal on Early Childhood*, 2(1), 27–37. <https://doi.org/10.31004/AULAD.V2I1.17>
- Hamid, A., Badiatul Jamila, W., Mahwiyah, F., & Karimah, U. (2021). Dampak Perkembangan Pendidikan Anak Keluarga TKW di Probolinggo. *Al-Muaddib*, 3(2), 163.
- Ismail, J., Azahara, W., & Mahmud, N. (2021). Meningkatkan Prestasi Belajar Siswa Melalui Bimbingan Orang Tua di Rumah. *Jurnal Ilmiah Wahana Pendidikan*, 7(1), 247–257. <https://doi.org/10.5281/ZENODO.4568135>
- Kurniati, E., Nur Alfaeni, D. K., & Andriani, F. (2020). Analisis Peran Orang Tua dalam Mendampingi Anak di Masa Pandemi Covid-19. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 5(1), 241. <https://doi.org/10.31004/OBSESI.V5I1.541>
- Laksana, W. D. (2020). *Metode Penelitian Kualitatif Studi Pustaka dan Studi Lapangan*. UIN Sunan Gunung Djati.
- Nainggolan, V. (2020, October 26). Peran Bimbingan Orang Tua dalam Kemandirian Belajar Anak di Sekolah Dasar. *PROSIDING SEMINAR DAN DISKUSI PENDIDIKAN DASAR*. <https://journal.unj.ac.id/unj/index.php/psdpd/article/view/17787>

- Ngewa, H. M. (2019). Peran Orang Tua dalam Pengasuhan Anak. *Ya Bunayya*, 1(1), 96–115.
- Pahlevi, R., & Utomo, P. (2022). Orang Tua, Anak dan Pola Asuh: Studi Kasus tentang Pola layanan dan Bimbingan Keluarga terhadap Pembentukan Karakter Anak. *Jurnal Hawa: Studi Pengarus Utamaan Gender Dan Anak*, 4(1), 91–102. <https://doi.org/10.29300/HAWAPSGA.V4I1.6888>
- Prima, E. (2020). Peranan Orang Tua dalam Mengembangkan Bakat Anak Usia Dini. *Al Fitrah: Journal Of Early Childhood Islamic Education*, 4(1), 108–118. <https://doi.org/10.29300/ALFITRAH.V4I1.4492>
- Rina Miftakhi, D., & Ardiansah, F. (2020). Peranan Orang Tua Siswa dalam Melaksanakan Pendampingan Pembelajaran dari Rumah Secara Online. *Journal of Education and Instruction (JOEAI)*, 3(2), 151–158. <https://doi.org/10.31539/JOEAI.V3I2.1726>
- Robbiyah, R., Ekasari, D., & Witarsa, R. (2018). Pengaruh Pola Asuh Ibu terhadap Kecerdasan Sosial Anak Usia Dini di TK Kenanga Kabupaten Bandung Barat. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 2(1), 74. <https://doi.org/10.31004/OBSESI.V2I1.10>
- Ruli, E. (2020). Tugas dan Peran Orang Tua dalam Mendidik Anak. *Jurnal Edukasi Nonformal*, 1(1), 143–146. <https://ummaspul.e-journal.id/JENFOL/article/view/428>
- Sugiyono. (2019). *Metode Penelitian Kualitatif R&D*. Alfabeta.
- Suharto, M. P., & Nurwati, N. (2018). Peran Extended Family pada Anak TKW yang Terlantar di Kabupaten Indramayu. *Prosiding Penelitian Dan Pengabdian Kepada Masyarakat*, 5(2), 165–175. <https://doi.org/10.24198/JPPM.V5I2.18368>
- Susanti, D. A. (2020). Bimbingan Orang Tua dalam Mengembangkan Perilaku Kemandirian Anak Usia Dini. *AL IBTIDA': Jurnal Program Studi Pendidikan Guru Madrasah Ibtidaiyah*, 8(1), 35–56. <http://ejournal.kopertais4.or.id/mataraman/index.php/alibtida/article/view/4464>
- Suteja, J., & Yusriah. (2017). Dampak Pola Asuh Orang Tua Terhadap Perkembangan Sosial-Emosional Anak. *AWLADY: Jurnal Pendidikan Anak*, 3(1), 1–14. <https://doi.org/10.24235/AWLADY.V3I1.1331>
- Umar, H. (2013). *Desain Penelitian SDM dan Perilaku Karyawan*. Raja Grafindo Persada.
- Uno, Hamzah. B., & Lamatenggo, N. (2016). *Landasan Pendidikan* (Suryani, Ed.; 1st ed., Vol. 1). PT. Bumi Aksara. https://books.google.co.id/books?hl=id&lr=&id=9DxIEAAQBAJ&oi=fnd&pg=PP1&dq=Landasan+Pendidikan&ots=PE7vi2QTDV&sig=iwMppID76GyGvImgG3VFzt2LIR8&redir_esc=y#v=onepage&q=Landasan%20Pendidikan&f=false

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***The Impact of Internal Urban-to-Rural Migration and Its Limits:
A Case Study on Japan and South Korea***

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Abstract

This study asks how the governmental promotion of urban-to-rural internal migration in Japan and South Korea has impacted on agricultural labor shortage and rural communities in the two countries. For decades, the Western developed countries such as the United States and the United Kingdom have introduced international immigrants to secure their workforces in agricultural sector and it has promoted bipolarization of farmers to farmland operators and their employees. Japan and South Korea, on the other hand, have promoted internal migration from urban areas to rural ones while accepting foreign workers with limited terms. The analysis based on literature review and interview by the author points out that, though Japan and South Korea have chosen different policy approach from the West in terms of securing workforces in agriculture, agricultural labor shortage occurs and the differentiation among farmers have also been proceeded in the two Asian countries.

Keywords: South Korea, Japan, Agriculture, Workforce, Immigration, Labor Shortage

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Introduction

This study asks how the governmental promotion of internal urban-to-rural migration in Japan and South Korea has impacted on agricultural labor shortage and the status of rural communities in the two countries.

Labor shortage in agricultural sector has been a common policy subject among governments in developed economies. Internal applicants to work in farm sector Europe and North America have been decreased for decades and domestic labor markets of those countries cannot supply sufficient workforces to their farm sector's demands (Cristea and Noja, 2019; Martin and Taylor, 2013). Japan and South Korea, two major developed economies in Asia, are not exceptional. According to the Ministry of Agriculture, Forestry and Fishery in Japan, more than one third of the nation's farmers over sixty years old are troubled to find the successors of their agricultural works (MAFF, 2023). Also in South Korea, a governmental survey shows that more than half of the farmers over sixty are troubled for the absence of their successors (KREI, 2023).

While labor shortage in agricultural sector is one of the serious policy subjects for developed economies around the world, the governments of the developed countries have employed some different countermeasures each other. Inflow of international immigrants as agricultural workforces, on the one hand, has been a major policy approach in the Western countries such as the United States and the United Kingdom. In Japan and South Korea, on the other, the governments have promoted not only the inflow of international immigrants but also internal ones. Since the mid-2010s, the government of South Korea has implemented the Return Farm Policy to promote urban dwellers' migration to rural areas and to work in agricultural sector (Green-Daero, 2024). Also, the Japanese government has promoted internal migration to non-urban regions under the Regional Revitalization Act of 2014.¹

Different policy approaches can result in different outcomes. This study analyzes how the internal migration policies by the governments of South Korea and Japan have impacted on their agricultural sectors in terms of labor markets employing the research methods of literature review and interview conducted in the two countries. The next section reviews previous studies to research agricultural labor shortage in developed countries and shows a theoretical framework to analyze the case of Japan and South Korea based on the literature review. Following the framework, this paper sees the cases of Japan and South Korea. And, in the last section, the analysis on the policy outcomes in the two countries are shown.

Literature Review: Bipolarization of Farmers

Since the mid-20th century, the workers in agricultural sector have been decreased in most developed countries (FAO, 2022). In the Western developed countries today, foreign workers including immigrants are necessary workforces in their agricultural sector. It is pointed out that Mexicans occupy more than half the farm workers in California, the United States (Zahniser et al. 2018). Also, it is pointed out that the immigrants from Central and Eastern European countries are indispensable in the agricultural production in the United Kingdom today (Angioloni et al, 2022).

¹ For detail of the Rural Revitalization, see Public Relation Office, Government of Japan (2024).

In terms of the role of the farmers in agricultural fields, on the other hand, the previous studies point out that the farmers in developed countries have been bipolarized to skilled workforces and unskilled ones. It is argued that, as the Mexican immigrants are increased, the farmers in the United States have been bipolarized small number of American operators and large number of Latino workers (Minkoff-Zern et al, 2016). Employed by the American operators, according to their argument, the Mexican workers are engaged in unskilled works on farmlands. The classification of farmers based on their skills is also argued in Europe. A report published by the European Parliament argues that the agricultural labor shortage in Western Europe is particularly serious on unskilled workers mentioning to the unskilled workers migrating from Central and Eastern Europe (European Parliament, 2019). The disparity of farmers can occur also among foreign workers. Also in British Columbia, Western Canada, socio-economic exclusion of foreign farm workers are reported (Caxaj, 2018).

Agriculture Operation in Japan and South Korea: The Cases of the Study

While the previous studies above commonly point out that the agricultural foreign workers in developed countries are often employed as unskilled laborers by local farmland owners, it should be noted that the farmland owners in the West have employed huge numbers of workers in their farmlands for centuries. The size of farmland per household in the United States and the United Kingdom have been more than 100 hectares since the mid-19th Century and it is too large to cultivate by family members. To cultivate huge size of farmlands, it has been general among the Western farm owners to employ workers.² In the United States, as pointed out in an article, agricultural land reform to distribute farmlands to tenant farmers have been the issue in developed countries, not home (Roman-Alcala, 2024).

Differently from the West, Japan and South Korea are mountainous countries with small-sized farmers. Since the Meiji Restoration in the latter half of the 19th Century, most farmers in Japan had been ‘tenant’ ones to cultivate the land leased by landlords, who were often absent from their own farmlands, rather than employees under the command by landowners until the mid-20th Century. Though the agricultural land reform under the influence by the United States in the mid-20th Century changed the status of the tenant farmers to farm owners, it did not transform the standard operation style of the agriculture in the two countries. In the process of the land reform both in Japan and South Korea, the governments confiscated the landlords’ farmlands nationwide and redistributed the lands to individual tenant farmers. As a result, while the tenant farmers were transformed to the owners of their own farmlands, individual farm household owned extremely small size of lands with one or two hectares per household both in Japan and South Korea.³

Because individual farm households' size is too small to employ workforces for cultivation, most farmers in Japan and South Korea since the mid-20th Century have been family-operated and have had limited opportunity to employ permanent workforces except for dairy farming. The tentative labor shortages in harvest seasons have been covered by mutual assistance among rural residents as called *yui* in Japanese and *pumasi* in Korean. Or farm operators’ family members such as farmland owners’ husbands,

² Recent technological changes request farm owners to hold higher skills as operators (Popescu et al. 2021).

³ For detail, see Nawakura (2019).

parents, and children have supplied most part of the country's workforces.⁴ Agricultural workforce in Japan has not been marketized for a long time and farm operators' husbands, parents, and children have played major role as agricultural workforces in Japan and South Korea.

Since the 1970s, the decrease of farmers has emerged as a sociopolitical subject nationwide in both of the two countries. As a result of the workforce outflow to urban areas under the rapid industrialization in the mid-20th Century, the farmers in Japan were decreased in terms of the share in the nation's labor population. However, the mechanization of agricultural works, particularly in rice farming, and labor coordination by agricultural cooperatives in individual areas, particularly in vegetable harvesting, have covered the demand until the early 2000s.⁵ Reflecting the historical background as seen above, farmers' (bi)polarization to operators and employed workers has not been as general as in the West.

Both Japan and South Korea have promoted internal migration from urban areas to rural ones while accepting foreign workers with limited terms. Does the policy approach contribute to sustain the conventional style of farm operation in Japan and South Korea? Does it trigger any structural changes in the two countries' rural communities? The sections below analyze the cases.

Agricultural Workforce Policies in Japan

The decrease of agricultural workforces has been one of the major public policy subjects in Japan since the 1990s. In a recent quarter Century, the number of agricultural fulltime workers have been decreased from 3.9 million in 2000 to 1.1 million in 2023 (MAFF, 2024-1). On the other hand, the food self-sufficiency rate of Japan has been less than 40% and its increase has been a task for the Ministry of Agriculture, Forestry and Fishery (MAFF) for more than three decades (MAFF, 2024-2). Since the 1980s, the MAFF, the Central Union of Agricultural Cooperatives (JA-Zenchu), and rural municipalities nationwide have encouraged the urban residents to be farmers by launching agriculture colleges (*nogyo daigakko*) to each prefecture and subsidizing applicants for agriculture.

The begin of the Regional Revitalization (*chiho sosei*) policy in 2014 was a turning point to accelerate urban-to-rural internal migration. Differently from existing national government's subsidy-pride assistance on rural areas, the Regional Revitalization emphasizes the role of not only financial resource but also human one. Also, differently from highly centralized rural vitalization measures until the early 2010s, the Regional Revitalization call on prefectural and municipal governments to play active role for the growth of local economy (Cabinet Office, 2024). Responding to the call by the national government, the local authorities nationwide launched promotion to migrate from urban areas to rural ones for rural areas' revitalization. As of 2023, at least 35 out of 47 prefectures employ professional personnels to assist internal migration to rural areas (National Federation of Depopulated Municipalities, 2024). Those personnels offer the applicants to migrate to rural areas rich information and advice to smooth settlement in non-urban areas.

⁴ For detail of the Asia's family farming, see Ye and Pan (2016).

⁵ For detail, see MAFF (2013).

Encouraged by the Regional Revitalization, the applicants of urban-to-rural internal migration have been increased as indicated in Figure 1. Though this statistic data includes also the applicants for nonagricultural industries in rural areas, “The White Paper on Agriculture, Food, and Rural Areas 2022” points out that the inflow of young population to work as farmers increases in some demographically depopulated rural municipalities (MAFF, 2023).

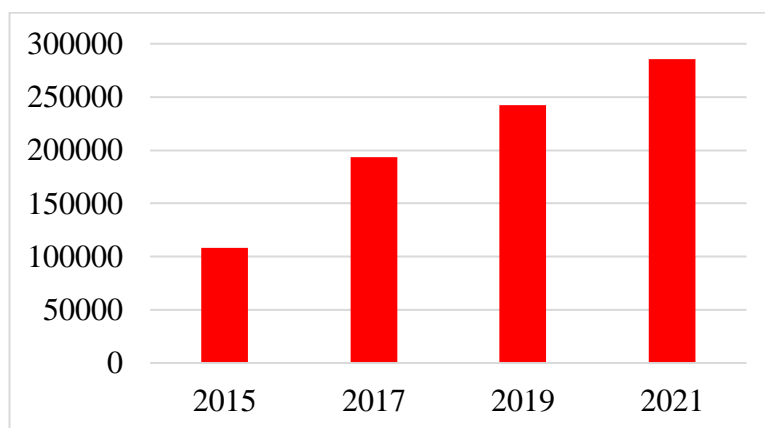


Figure 1: Applicants of Urban-to-Rural Migration in Japan
(Source: MIC, 2023)

On the other hand, a data analysis by the Ministry of Internal Affairs and Communication points out that more than 80% of the internal immigrants' households to legally designated depopulated municipalities are core families, meaning single households, couples, or households consisted of a couple and its children (MIC, 2019). This means that the average size of internal migration households in Japan have been too small to operate agriculture.

The author joined an interview survey on internal urban-to-rural immigrants in Nantan City, Kyoto Prefecture in October 2023. Ms. Hazuki Dwyer, an interviewee, migrated from Tokyo in the early 2010s after experiencing the malfunction of urban infrastructure caused by the Great East Japan Earthquake in March 2011. Seeing how urban infrastructure is vulnerable to natural disasters, Ms. Dwyer determined to move to rural areas and begin agriculture as part time work while acting as an English Japanese interpreter. She purchased small size of farmland in Nantan City and has cultivated the land to harvest rice with her husband for a decade. Based on her activity as a farmer, she acts as a lecturer in a seminar to learn how to operate agriculture collaborated with the municipal government of Nantan City as of 2023.

While acting as a farmer and promoting urban dwellers' entrance to agriculture, however, Ms. Dwyer showed little interest in operating her farmland as a full-time farmer. Rather, she was interested in cultivating her farmland to produce small quantity of high-valued crops such as organic rice in the interview by the author. As observed in her case, recently increasing urban-to-rural internal immigrants tend to be interested in small-sized part time agricultural works rather than working as full-time farm operators. In order to promote the demographic inflow to agricultural sector, many municipal governments in rural regions have deregulated the internal immigrants' purchase of extremely small size, such as 10 acre or 20 acre, of farmlands (*Gendai Nogyo*, 2023).

The fact above indicates that the internal migration has limited impact on rural communities in terms of agricultural works. Kazuo Kasami, former vice secretary general of *Furusato Kaiki Shien Center* (Support Center for Returning to Hometown), an NPO to promote urban-to-rural internal migration, explained the internal immigrants' interest in agriculture as 'They (internal immigrants) are, in general, interested in life with agriculture rather than life as farmers' in the author's interview. This means that, though the internal migration to rural areas is increased, it rarely contributes to supply necessary workforces to the nation's agricultural labor market. Also, Yuya Nabeshima, vice president of Ehime Life Network, an NPO to coordinate urban-to-rural migration in Ehime Prefecture, reviewed his activity 'Though large number of the internal immigrants to Ehime Prefecture wish to work in farm sector for full time, many of them change their opinion while learning actual rural life and, as a result, act as part time ones.'

While internal urban-to-rural immigrants tend to prefer small-sized agriculture, some municipalities, particularly in those in Hokkaido, northern Japan, have been active to recruit internal immigrants who work as professional farmers. Nayoro City, located in northern area of Hokkaido, have recruited internal immigrants to secure the successors of rice farming as the municipality's main industry. Since the 2010s, the Nayoro municipal government has employed applicants to be farmers as the 'Agriculture Supporters (*nogyo shien-in*),' public officers to learn agriculture with the term of three years (Nayoro City, 2024). During the three years, the Agricultural Supporters learn the methods and know-hows of farming under the guidance by incumbent local farmers. In the author's inquiry by telephone in June 2022, the Division of Agriculture of Nayoro municipal government told 'The local farmers are very kind and active to teach the know-hows of farming to the Agriculture Supporters.' On the other hand, it should be noted that the agricultural training programs for the applicants in most rural municipalities, including the case of Nayoro City, are those to train the methods of agriculture operation, not know-hows to work in agriculture as employees. As a result, the labor shortage in agricultural sector in Japan has still been remained as a serious policy subject in spite of the increasing internal migration to rural areas for a decade.

While the internal migration to rural areas is promoted, the government has increased the number of foreign workers in agricultural sector since the latter half of the 2010s. The number of foreigners working in agricultural sector in Japan, including those who are treated 'technical intern trainees (*ginou jisshu-sei*),' jumped from approximately 18,000 in 2014 to approximately 38,000 in 2020 (MIC, 2023). In addition, the government launched a visa status 'specific skill (*tokutei ginou*)' to permit foreigners to work in Japan for maximum five years. This new visa status covers agriculture. Under this trend, the number of foreigners to work in farm sector as employees are increased (Nikkei Asia, 2023).

The fact observed above indicates that the Japanese agriculture sector experiences the inflow of two different kinds of farmers: Internal immigrant to act as part time farmers, and foreign workers to be employed by farm owners. Though its pattern is different from the West, also Japan experiences some differentiation among farmers.

Agricultural Workforce Policies in South Korea

As well as in Japan, the farming population in South Korea have been decreased for decades. The number of farmers has been decreased from approximately 1.1 million in

1990 to 0.7 million in 2020 (Korea Statistic Agency, 2024). Aging of incumbent farmers has also been a serious policy subject for decades.

South Korea's agriculture has different features from Japan on the one hand. Compared with Japan, for example, South Korea's rural areas have had limited opportunities for non-agriculture income (Nawakura, 2019). On the other hand, however, the two countries' agriculture has common features: Mountainous land, farming operated by family members with limited employed workers, and small-sized farming as a result of land reform in the mid-20th Century.

Under the rapid industrialization since the 1960s, agricultural population in South Korea has been gradually decreased. The government had sought the ways to cover the decrease and secure farming workforces prior to promoting urban-to-rural internal migration. As the government's measures to secure agricultural workforces prior to the internal migration, two major approaches can be pointed out: Mechanization and marriage immigration.

Since the 1980s, the government has subsidized individual farming households and farmers' local cooperatives to purchase agricultural machines (Nawakura, 2019). Though those measures have contributed to alter the decreasing labor by machines such as combining machines and automated water suppliers, it has covered only some parts of agricultural works. While rice farming is friendly to mechanization, fruit and vegetable ones, particularly those harvesting, are not.

The government also accepted female marriage immigrants from Southeast Asian countries such as Vietnam and Cambodia to secure inner-home workforces in agricultural sector and rural population (Lee, 2022). In rural areas in the mid-20th Century's South Korea, family members in agricultural households played major roles as necessary workforces for mutual assistance among farmers (*pumasi*). The inflow of female population from overseas were expected to act as new members in rural South Korea. However, the marriage immigration has been criticized as *de-facto* slave trading today. Due to the criticism and cultural friction, the marriage immigration to South Korea once rose in 2012 but began to decrease in 2013.⁶

The financial crisis in 1997 was a turning point for the government to promote internal migration to rural areas. Under the rapid increase of jobless in urban areas following the crisis, the migration to rural areas increased in 1998 and 1999 because huge number of job seekers moved into agricultural sector (Nawakura, 2019). In 2000, however, the inflow into agricultural sector decreased because of economic recovery in urban sectors. This gave the government a lesson that workforce security in agricultural labor should be secured not only by push factors in urban areas but also by pull factors in rural ones.

Reflecting the lesson above, the government launched the Masterplan for Return Farm (*kuinong kuichon chonghap kyehoik*) in 2009. In this plan, the government declared to promote return farming, internal urban-to-rural migration in other words, by collaboration with municipal governments, agricultural cooperatives, and local residents in rural areas.⁷ As concrete measures, the Ministry of Agriculture, Fishery and Rural

⁶ For detail, see Fadanelli (2022).

⁷ For detail, see Ma, An & Park (2018).

Affairs (MAFRA) and the Rural Revitalization Agency launched government-funded agricultural training program (Nawakura, 2019). The program offers urban dwellers who apply to migrate to rural areas some training courses to learn how to operate farming without tuition. The training courses are offered in agricultural technology centers in urban municipalities' local governments such as Seoul. As indicated in Figure2, more than 15,000 urban dwellers move to urban areas every year.

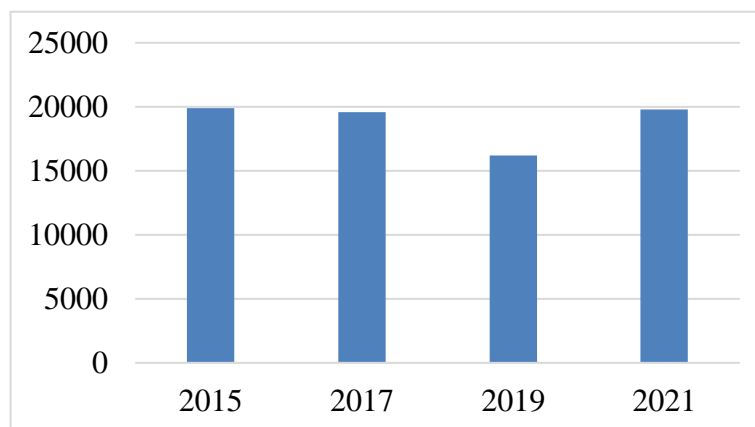


Figure 2: Internal Immigrants to Agriculture in South Korea
(Source: Green-Daero, 2024)

According to the author's fieldwork and interview on the agricultural technology centers in the mid-2010s, the contents of the training courses emphasized to learn know-how of operating agriculture as entrepreneurs rather than actual agricultural works (Nawakura, 2019). The officers in Agricultural Technology Center in Seoul told the author that the trainees in the courses tended to plan migration to rural areas seeking 'stress-free business.' Because of the preference, the migrated farmers tend to work in agricultural sector not as employees but as operators of their own farms. In addition, the migrated farmers tend to operate their own farms without mutual support with their local neighbors in the migrated rural areas (Yoon et al, 2018). The internal urban-to-rural immigrants tend to build their own mutual networks among the immigrants, not with existing farmers in migrated regions and to produce high-valued agricultural products such as organic vegetables (Yoon et al. 2018; Nawakura, 2019). This means that the internal urban-to-rural immigrants play only limited roles in mutual assistance such as *pumasi* for existing farmers. In other words, the impact of internal immigrants on agricultural labor shortage for existing farmers is minor.

Meanwhile, some internal immigrants began farming by another style distinguished from conventional family-based one: Agriculture operation by enterprises. Though South Korea's Farmland Act of 1996 restricts market transaction so as to prevent landowners' exploitation of tenant farm workers officially, the rural-to-urban migration since the 1960s has encouraged rent and/or sell of farmlands practically.⁸ For more effective use of the farmlands, the government has deregulated private enterprises' purchase of farmlands and operation of farming.⁹ Reflecting those circumstances, the farmlands

⁸ While the Farmland Act restricts the transaction of farmlands, internal rural-to-urban immigrants and retired farmers have often rent their farmlands others. For the detail of the rural-to-urban migration and structural changes in mid-20th Century, see OECD (1999).

⁹ The effective use of farmlands and the improvement of agricultural entrepreneurship were crucial policy subjects also in the preparation for international competition under a series of free trade agreements (FTAs) in the 2000s (Ivanova, 2018).

operated by private enterprises have been increased nationwide for decades.¹⁰ The enterprise-operated farmlands have demanded farm workers as employees, which cannot be supplied by the urban-to-rural internal migration.

Reflecting the circumstances above, South Korea began to accept foreign workers in agricultural sector in the mid-2000s. The South Korean government launched visa programs for foreigners to work as unskilled laborers in 2004. Though the share of employed farm workers in the unskilled foreign laborers is only 20% to 30%, more than 6,000 foreign workers have entered into agricultural sector annually since the mid-2010s (Takayasu, 2020). Most of those foreign workers are engaged in agriculture as seasonal workers, who work in seeding, harvesting, and picking fruits (JCMK, 2023). While the internal migration to rural areas is still increased, also the demand for the seasonal foreign workers is increased.¹¹ This means that the inflow of internal migration to farm sector has limited impact on the shortages of unskilled farming employees for existing farming households.

Conclusion

This study asked the impact of internal urban-to-rural migration for agricultural labor shortage and for the status of rural communities in terms of agricultural works in Japan and South Korea. As well as other developed countries in the West, the two Asian developed countries have been suffering from labor shortage in farm sector for last several decades. In order to secure the number of farming households, however, the two countries have implemented a unique policy: The promotion of internal, not international, migration from urban areas to rural ones. Under the governmental promotion, large number of urban dwellers have migrated to their countries' rural areas and began farming. However, they are engaged in agriculture not as employed workers but as operators and not as full-time farmers but as part-time ones. In Japan, the average size of the internal immigrants' households to rural areas are only two or three members per family and they cannot afford to offer personnels for their neighbors' agricultural works. In South Korea, because the internal immigrants tend to build their mutual assistance not with existing local farmers but with other internal immigrants, they play only limited role in mutual assistance among existing farmers. As a result, while large number of internal migrations to rural areas occur, both the two countries have increased the inflow of foreign workers as unskilled agricultural laborers since the 2010s. And the impact of the internal migration on existing rural communities are limited in terms of agricultural works.

This study, however, is based on literature review on previous studies and statistic data, and interview in limited areas in the two countries. The empirical analysis based on nationwide interview and fieldworks is a future subject.

¹⁰ The author asked Mr. Da-jin An, a staff the Farm Han-nong Corporation, an enterprise to operate agriculture in South Korea, the origin to purchase farmlands by E-mail. Mr. An, however, answered that the corporation had no information on the process of purchasing their farmlands because the land had been purchased in 'too old days'. This indicates the possibility that the nation's farmlands had broadly been transacted actively prior to the Farmland Act of 1996.

¹¹ Since the mid-2020s, the South Korean government has issued extra visas for the seasonal foreign workers in farm sector (Philippines News Agency, 2024).

Appendix

Interviewees

Name	Date	Venue	Language
Nayoro City Office	July 4, 2022	(By telephone)	Japanese
Da-jin An	July 22, 2022	(By E-mail)	Korean
Kazuo Kasami	May 10, 2023	Chiyoda City, Tokyo, Japan	Japanese
Hazuki Dwyer	October 13, 2023	Nantan City, Kyoto, Japan	Japanese
Yuya Nabeshima	October 23, 2023	Matsuyama City, Ehime, Japan	Japanese

References

Books, Articles & Reports

- Angioloni, S. et al. (2022). 'Liberalizing Immigration Policies for the UK Agricultural Sector in the Post-Brexit Era' *Journal of Economic Integration* 37(1), 158-178.
- Caxaj, C.S. & Diaz, L. (2018). 'Migrant workers' (non)Belonging in Rural British Columbia, Canada: Storied Experiences of Marginal Living' *International Journal of Migration, Health and Social Care* 14(2), 208-220.
- Cristea, M., & Noja, G.G. (2019). European agriculture under immigration effects: New empirical evidence *Agricultural Economics (AGRICECON)* 65(3), 112-122.
- European Parliament. (2019). *The EU Farming Employment: Current Challenges and Future Prospects* Strasbourg: Policy Department for Structural and Cohesion Policies, European Parliament.
- Fadanelli, J. (2022). 'Beyond the Data: Gender and Immigration in South Korea' A Blog article published by the Korea Economy Institute in Washington, D.C.
<https://keia.org/the-peninsula/beyond-the-data-gender-and-immigration-in-south-korea/>
- FAO. (2022). *State of Food and Agriculture* Rome: Food and Agriculture Organization of the United Nations.
- Ivanova, S. et al. (2018). 'Sustainable Entrepreneurship: Agrarian Policy in South Korea' *Journal of Entrepreneurship and Sustainability* 5(4), 748-760.
- JCMK. (2023). *Addressing Challenges and Responses in the South Korea Seasonal Worker Program* Quezon: Migrant Forum in Asia.
- KREI. (2023). *Agricultural Outlook Korea 2023* Naju: Korea Rural Economic Institute.
- Lee T. (2022). *Migration Data and Marriage Migrants in the Republic of Korea* Geneva: International Organization for Migration.
- Ma, S.J., An S. & Park, D.S. (2018). 'Urban-rural Migration and Migrants' Successful Settlement in Korea' *Development and Society* 47(2), 285-312.
- MAFF. (2013). *Nogyo kikai wo meguru genjo to taisaku (Current Status and Government's Approach to Agricultural Mechanization)* Tokyo: Ministry of Agriculture, Forestry, and Fishery.
- MAFF. (2023). *The White Paper on Agriculture, Food, and Rural Areas 2022 (English Version)* Tokyo: The Ministry of Agriculture, Forestry, and Fishery.
- Martin, Philip. & J. Edward Taylor. (2013). *Ripe with Change: Evolving Farm Labor Markets in the United States, Mexico, and Central America* Washington, D.C.: Wilson Center.

- MIC. (2019). *Kaso chiikino jinko ido ni kansuru deita bunseki (A Data Analysis of Demographic Mobilization in Depopulated Municipalities)* Tokyo: Ministry of Internal Affairs and Telecommunication (in Japanese).
- MIC. (2023). *Reiwa 4-nendo ni okeru iju sodan ni kansuru chosa kekka (The Research Report on the Consultation on Internal Migration 2022)* Tokyo: Ministry of Internal Affairs and Telecommunication (in Japanese).
- Minkoff-Zern, L.A. et al. (2016). 'A New Era of Civil Rights? Latino Immigrant Farmers and Exclusion' *Agriculture, Food, & Human Values Society* 34(3), 631-643. The United States Department of Agriculture.
- National Federation of Depopulated Municipalities. (2024). *Kaso chiiki no ijuukeire sisaku taisei ni kansuru chosa kenkyu hokokusyo (The Report on Internal Migration Policies and Regimes by Depopulated Region's Local Governments)* Tokyo: National Federation of Depopulated Municipalities in Japan.
- Nawakura, A. (2019). *Kankoku nosei no 70-nen (The Seven Decades of South Korea's Agricultural Politics)* Nagoya: V-2 Solution (in Japanese).
- OECD. (1999). *Review of Agricultural Policies in Korea* Paris: Organization for Economic Co-operation and Development.
- Popescu, A. et al. (2021). 'Labor Force in the European Union Agriculture: Traits and Tendencies' *Scientific Papers Series Management, Economic Engineering in Agriculture and Rural Development* 21(2), 475-486.
- Roman-Alcala, A. (2024). 'Land Reform in the United States: Lost Cause or Simply a Cause That Has Been Lost?' *Elementa Science of the Anthropocene* 12(1), online version. DOI: <https://doi.org/10.1525/elementa.2023.00087>
- Takayasu, Y. (2020). 'Kankoku no nogyo ni okeru gaikokujin rodosha no koyo ni kansuru kosatsu (The Review on the Employment of Foreign Workers in South Korea's Agriculture)' *The Journal of Korean Economic Studies* (17), 37-50.
- Ye, J. & Pan, L. (2016). *Concepts and Realities of Family Farming in Asia and the Pacific* Brasilia: International Policy Centre for Inclusive Growth, United Nations Development Program.
- Yoon, D.H. et al. (2018). 'Characteristics of Urban to Rural Return Migration of Farming Families in Korea and their Social Relations : A Case Study of Miryang in South Gyeongsang Province' *Journal of Rural Community Studies* (127), 43-59.
- Zahniser, S. et al. (2018). *Farm Labor Markets in the United States and Mexico Pose Challenges for U.S. Agriculture* Washington, D.C.: United States Department of Agriculture.

Websites

- Cabinet Office. (July 3, 2024). *Chihou sousei (Regional Revitalization)*.
<https://www.chisou.go.jp/sousei/index.html> (Reviewed on June 18, 2024) (in Japanese)
- Gendai Nogyo (Current Agriculture). (May 2023). *Shucho (Editorial)*
<https://www.ruralnet.or.jp/syutyu/2023/202305.htm> (Reviewed on July 4, 2024) (in Japanese)
- Green Daero. (May 13, 2024). *Jonghap jeongbo (General Information)*.
<https://www.greendaero.go.kr/svc/rfph/cpif/front/home.do> (Reviewed on June 13, 2024) (in Korean)
- Korea Statistic Agency. (June 25, 2024). *Guinong-o guichon tonggye (Statistics on Return Farm and Fishery)*.
https://kosis.kr/statisticsList/statisticsListIndex.do?menuId=M_01_01&vwcd=MT_ZTITLE&parmTabId=M_01_01&statId=2012015#content-group (Reviewed on June 15, 2024) (in Korean)
- MAFF (1). (July 1, 2024). *Nogyo Rodo-ryoku ni kansuru tokei (Statistics on Agricultural Workforces)*. <https://www.maff.go.jp/j/tokei/sihyo/data/08.html> (Reviewed on July 4, 2024) (in Japanese)
- MAFF (2). (June 14, 2024). *Shokuryo jikyuritu ni tsuite (On Food Self-Sufficiency)*.
https://www.maff.go.jp/j/zyukyu/zikyu_ritu/012.html (Reviewed on June 18, 2024) (in Japanese)
- Nayoro City. (January 1, 2024). *Nayoro shi nogyo iinkai dayori (Newsletter of Agricultural Committee, Nayoro Municipal Government)*
<http://www.city.nayoro.lg.jp/section/nougyou/prkeql000002908k.html?channel=main> (Reviewed on June 20, 2024) (in Japanese)
- Nikkei Asia. (April 23, 2023). *Japanese Farms Turn to Foreign Workers as Rural Population Ages*.
<https://asia.nikkei.com/Business/Agriculture/Japanese-farms-turn-to-foreign-workers-as-rural-population-ages> (Reviewed on April 25, 2023)
- Philippines News Agency. (March 1, 2024). *Ist batch of seasonal farm workers leave for South Korea*. <https://www.pna.gov.ph/articles/1219921> (Reviewed on June 20, 2024)
- Public Relation Office, Government of Japan. (March 28, 2024). *Regional Revitalization*.
https://www.gov-online.go.jp/en/topics/regional_rev/ (Reviewed on June 13, 2024)

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***Effective Immigration Policy and Societal Transformation:
The Benefits and Challenges of a Rapidly Growing Multicultural Population in Canada***

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Abstract

This paper presents the complex historical context and development of immigration policy in Canada and examines the rapid and profound changes and trends in Canadian society which are occurring due to new record levels of immigration. The benefits and challenges of a rapidly growing multicultural population and the evolving relation between immigration and national identity are examined. The continuing transformation of Canadian society through immigration and the impact of immigration on culture, education, business, politics, and international relations are addressed. Immigration policy and outcomes in Canada are compared and contrasted with immigration policies in other countries. The current Canadian immigration policy is highly effective at promoting economic growth and may be an appropriate model for other countries with rapidly ageing workforces and declining populations (Harrap, Hawthorne, Holland, McDonald, & Scott, 2022). As the populations of many countries continue to decline and record numbers of workers enter retirement, the population and workforce in Canada are growing at an accelerating annual rate due to unprecedented levels of immigration. Canadian economic growth, boosted by a steady influx of highly skilled immigrant workers, is currently stronger than that of many other advanced countries. Predictions are made regarding the future direction of immigration policy, diversity, and economic growth in Canada and in other advanced countries based on current and historical data and global trends.

Keywords: Immigration Policy, Canadian Society, National Identity, Diversity

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Introduction

Canadian society has been shaped by successive waves of immigration throughout its history. New, unprecedented, record high levels of immigration are continuing to cause profound changes in Canada's multicultural society. The Canadian government has created a 3-year Immigration Levels Plan that will result in a large, steady increase in permanent residents in Canada and in a new annual record of half a million new immigrants by 2025 (Immigration, Refugees and Citizenship Canada, 2022). Large waves of new immigrants from a growing number of source countries are contributing to the rich multicultural social fabric and national identity of Canada. Immigration policy exerts a significant impact on the society, culture, education, business, politics, and international relations of a country. Increased immigration presents both challenges and benefits. The aging population and record number of retirees in Canada have created an urgent need for more skilled immigrants. Increased tolerance of diversity and multiculturalism have been the keys to Canada's economic success and social stability in the past and are becoming increasingly important.

The Historical Development of Immigration in Canada

The vast territory that is now the sovereign state of Canada has experienced major waves of immigration from Europe for centuries. Jacques Cartier, a French explorer who reached the Atlantic coast of Canada in 1534, declared that the entire vast territory of Canada belonged to his king and country (Gaudreault-Desbiens & Vogin, 2021). The native-Canadian First Nations, comprised of hundreds of different cultures and linguistic groups, had been living in the territory for thousands of years. The French, followed by the English, became the colonial power in the early history of what is now Canada and formed alliances with various indigenous tribes in military campaigns and in the lucrative fur trade, creating a diverse society shaped by many different languages, cultures, traditions, religions, and forms of government (Jeannotte, 2022). Although the French and English were the first Europeans to establish permanent settlements and colonies in North America, other Europeans may have landed in Canada first. Viking explorers and Basque fishermen may have been the first Europeans to discover Canada and its native inhabitants, but they did not establish permanent settlements (Gaudreault-Desbiens & Vogin, 2021). Society in what is now Canada has been multicultural in nature since the beginning of early human habitation.

Soon after the arrival of Europeans, African slaves were transported to the new colonies in North America. The earliest known record of an immigrant of African origin in Canada dates back to an African slave who arrived in 1608 (Pierson, Pupilampu, & White, 2022). Ethnic and cultural diversity has increased steadily over centuries in the territory now called Canada as a result of numerous, complex historical factors leading to successive waves of immigration. For example, thousands of American colonists who were still loyal to the British crown moved to Canada, which was called British North America, after the complete defeat of British forces in the American Revolution. Many of these loyal British subjects, also referred to as Loyalists, remained in touch with relatives in the new nation of America (O'Keefe, 2023). The arrival of thousands of Loyalists after the American Revolution led to a sudden, major increase in the population of Canada and eventually to an increase in cross-border ties through family and business connections.

Canadian immigration policy continued to favor white European immigrants in the nineteenth century and early twentieth century, but worker shortages created a need for immigrants from other parts of the British Empire, especially from Asia and Africa. Large numbers of free

Black immigrants from America were given farmland by the government to convince them to settle in the sparsely populated prairies in central Canada in the 1800s, and successive waves of Caribbean Black immigrants arrived in the 1950s and from many African countries in the following decade (Pierson, Pupilampu, & White, 2022). Black Canadians have contributed to the growth and success of the Canadian economy for centuries.

During British colonial rule, government policies attempted to create a Canadian society modeled on that of Great Britain, although exceptions were made for the minority French population centered in Quebec. The British colony of Canada was given semi-independence as a dominion within the British Empire and priority was given to attracting white settlers to recreate a predominately white society with the laws, culture, and social norms of Great Britain (Johnstone, 2016). However, the ideal of creating an exact copy of British society in Canada was not practical or realistic. The number of immigrants from Britain was not sufficient to supply Canada's growing economy with workers or to adequately populate the vast Canadian territory, so a more diverse immigrant population became necessary (Johnstone, 2016). The need for more workers created immigration and employment opportunities, both short-term and long-term, for non-white settlers and workers.

Canadian immigration policy in the nineteenth century contained an exclusionary and racist bias which reflected the norms and attitudes of the British Empire at that time. An increase in non-white immigrants, although necessary for economic growth, eventually resulted in growing political pressure and a shift in official immigration policy. The Canadian Immigration Act, passed into law in 1919, was racist in nature and favored White European immigrants (Pierson, Pupilampu, & White, 2022). Immigration policies that were racist in nature continued in Canada until after World War II. Racially based immigration policies in both Canada and the United States after the Second World War were challenged by a shift in societal attitudes which favored human rights and criticized racial discrimination around the world and at home (Triadafilopoulos, 2010). In Canada, changing attitudes regarding immigration affected government policies. An increasing tolerance of diversity in society caused a major modification of official government immigration policy in the 1960s which significantly reduced racial biases in the immigration selection process (Triadafilopoulos, 2010). Acknowledging the growing diversity of increasingly multicultural society, the Canadian government began to implement official multicultural policies in society and in immigration in the 1970s. Race and country of origin no longer played a role in the immigration selection process, and priority was given to humanitarian concerns for refugees in addition to the economic and societal needs of Canada. For example, a large number of doctors trained in Canada began to move to the United States to work and to conduct research in the 1960s, and Canadian government policy encouraged the immigration of doctors from South Asia in response (Wright & Mullally, 2016). The number of source countries of immigrants to Canada has increased significantly since the 1970s, accelerating the existing trend of increasing ethnic and cultural diversity in Canada.

Canadian Population Growth and Immigration Trends

Canada has depended heavily on immigration for population and economic growth throughout its history. Confronted by a rapidly ageing society, low birth rates, a record number of retirees, and worker shortages in many major sectors, the government is encouraging and promoting new, record-breaking levels of immigration. Although Canada is continuing to accept large numbers of refugees in comparison with many other developed countries, the percentage of immigrants selected based on job skills and economic criteria is

increasing. By 2025, 60% of new immigrants will be granted residency status based on economic criteria, work experience, qualifications, and specific job skills, but large numbers of refugees are still being accepted (Immigration, Refugees and Citizenship Canada, 2022). The urgent need for new, skilled workers across Canada has caused a shortening of the immigration process in special cases. New forms of express entry programs have been introduced to accelerate the immigration process for highly skilled workers in Canadian industries with the highest worker shortages, including health care, the construction industry, manufacturing, engineering and scientific research (Immigration, Refugees and Citizenship Canada, 2022). High levels of immigration have become essential for economic growth in Canada.

In order to offset the challenges and costs of an aging population, priority is being given to relatively young immigrants. Over 80% of recent immigrants are under 45 years of age, helping to keep the Canadian workforce relatively young compared to many other developed countries (Immigration, Refugees and Citizenship Canada, n.d.). The number of student visas is increasing, and the large population of foreign students in Canada is growing steadily. There were close to one million international students in Canada in 2019, and the income from their tuition fees and consumer spending exceeded \$20 billion, making higher education a leading industry (Immigration, Refugees and Citizenship Canada, n.d.). Many graduate international students find work in Canada and a path to citizenship. Foreign students have become a major source of income and diversity for universities and an important source of skilled employees for companies in Canada and the United States, and competition to get foreign students is increasing between countries (Walker, 2023). Education for foreign students is a growing and important sector in the economy of many developed countries.

The number of temporary foreign workers is also increasing. The agriculture and health care sectors in Canada rely heavily on foreigners with temporary work permits, and close to 400,000 such permits were issued in 2019 (Immigration, Refugees and Citizenship Canada, n.d.). There are advantages and disadvantages for foreign participants who receive a temporary work visa. Temporary worker programs in Canada offer a faster route to working in Canada but are not popular with some foreigners such as workers from Trinidad because such programs may reduce the chance of obtaining permanent residency status (Leach, 2013). Obtaining permanent residency status requires more time than getting a temporary work visa.

In many countries, large numbers of refugees tend to be resettled in major cities. However, an increasing number of refugees are being sent to small population centers in rural areas of Canada with unique challenges that require careful consideration (Haugen, McNally, & Hallström, 2023). Refugee support programs need to adapt to the specific challenges of different regions.

General support for immigration remains high in officially multicultural Canadian society, and all major political parties in Canada support increased levels of immigration in sharp contrast to the political environment in many developed countries. The strong, general support for increased levels of immigration in the Canadian government and bureaucracy are factors which contribute to the successful outcomes of immigration in Canada (Paquet, 2021). Canadian immigration policy evolved rapidly in the second half of the twentieth century along with changes in society. Canadian immigration policy and practice based heavily on race and on countries of origin shifted towards immigration based more on individual merit, job skills, and humanitarian concerns in the 1950s (Elrick, 2022). Current trends in immigration policy favor an increased priority on the economic needs of the country.

Economic factors and needs have strongly influenced the long history of immigration in Canada, and economic goals continue to play an increasingly important role in Canadian immigration policy (Green & Green, 1999). Canada has become one of the most ethnically and culturally diverse countries in the world and has a growing need for highly skilled immigrants. According to national census data in 2021, 23% of Canadians had been born outside of Canada, the highest level of immigration in the history of Canada, and the main countries of origin were India, the Philippines, China, Syria, Nigeria, the United States of America, Pakistan, France, Iran, and the United Kingdom (Statistics Canada, 2022). The current trend towards increased diversity in Canadian society through merit-based immigration is accelerating further due to economic pressures and societal needs.

The Challenges and Benefits of Immigration in Canada

New immigrants face many social and economic challenges, and immigration policy needs to adequately address a wide range of support services and programs for immigrants. Some immigrants may suffer from elevated levels of stress and domestic violence as a result of cultural differences, communication and language challenges, invalid qualifications, and racism, an experience similar to native Canadians under colonial rule (Lorenzetti, Mancey, Walsh, & Lantion, 2023). An inadequate level of fluency in English or French can create serious social and economic problems. The immigration department in Canada enacted a series of changes to immigration policy during the Covid-19 global pandemic in an attempt to continue rapidly increasing the number of permanent residents in Canada, and many potential candidates had difficulty meeting the necessary language fluency standards (McLeod, 2023). A wide range of community-based English and French language programs exist for immigrants, but more money may need to be invested in language training.

The problem of racism still exists to some degree even in Canada's increasingly multicultural society. Some international students in Canada who are Southeast Asian or Black may face discrimination in the workplace after graduating and be limited to low-paying jobs with little job security (Ellis, 2023). Unless they are completely fluent in English or French and are highly skilled and educated, some new immigrants may struggle economically. Finding rewarding, stable work in Canada is sometimes a major challenge for immigrants, and some immigrants may struggle to avoid living in poverty (Dungan, Fang, & Gunderson, 2013). Currently, high rates of inflation and rapidly rising rents and property values are major challenges for new immigrants. The acute lack of affordable housing in Canada and rising rents in major cities are creating severe economic stress for large, recent waves of Asian, African, and Middle Eastern immigrants to Canada (Singh, 2022). The high cost of living has become a serious problem for many Canadians and recent immigrants.

The benefits for immigrants of living in a free, democratic, wealthy and peaceful society may be offset by a wide range of social and economic challenges, but the benefits of immigration for the Canadian society and economy are numerous and clear. For example, immigrant doctors who were trained in foreign countries have become an essential component of the Canadian health care system over the past few decades, and the process of evaluating foreign medical qualifications and of obtaining a license to practice medicine in Canada has been improved and the required time reduced (Bartman, Touchie, Topps, & Boulet, 2022). The Canadian health care system relies heavily on doctors, nurses, and medical researchers who were born and trained abroad. Economic studies have clearly indicated numerous, significant, positive impacts from increased levels of immigration in Canada, including such factors as national increases in consumer demand, worker productivity, tax revenues, and gross

domestic product (Dungan, Fang, & Gunderson, 2013). Immigration has always been critical to the stability and growth of the Canadian economy. Regional entrepreneur support programs in Canada have created many new opportunities for international foreign students to start and manage new businesses in Canada (Graham & Pottie, 2022). Immigrants are reducing worker shortages and creating new businesses and job opportunities for Canadians.

Immigration and National Identity in a Multicultural Society

Large-scale immigration over a long period of time can cause profound changes in the culture and national identity of a nation. One of the first major examples of a Canadian colonial government trying to directly support and promote domestic Canadian culture dates back to 1849 when the government introduced a subsidy to help pay for the delivery of Canadian newspapers (Jeannotte, 2022). Canadian officials have often been concerned by the major cultural and economic influence of the United States of America.

National holidays are effective cultural tools that can be used to shape and strengthen a sense of national identity and of national unity. Canada Day, originally called Dominion Day, was first celebrated on the first of July, 1958, and continues to be an annual occasion to celebrate the achievements of Canadians and the liberties that they enjoy (Hayday, 2010). A common sense of belonging and of shared values help to maintain the stability of a society. Historically, large-scale waves of immigration have been essential to the continuing growth of the Canadian population, and a clear majority of Canadian citizens and officials favor high levels of immigration (Wayland, 1997). As Canada has become more diverse, support for immigration has continued to increase. Military parades and an emphasis on Canada's British cultural connections were key components of the original Dominion Day, but multiculturalism, respect for the first native Canadians, and the importance of diversity have become the major themes of current Canada Day celebrations (Hayday, 2010). Canada's national identity has become less militaristic and has moved increasingly away from the original British culture in its colonial past.

Canada is an officially multicultural country in a world with increasing ethnic conflicts. Acknowledging the multicultural nature of Canadian society and the importance of continuing official multicultural policies in society and in immigration, the Canadian Parliament passed the Multiculturalism Act in 1988, but many Canadians remain concerned by the impact of immigration on Canada's identity as a nation (Wayland, 1997).

A majority of Canadians welcome increased diversity but wish to strengthen the sense of national identity, especially in relation to the United States, a much larger and culturally influential country. The National Film Board and the Canadian Broadcasting Corporation were formed in the 1930s to help protect and strengthen a distinctly Canadian national identity (Jeannotte, 2022). Regulations in the film and television industry have served to protect and promote a sense of Canadian national identity, but new digital communication technologies pose new challenges to regulators.

Canada is also an officially bilingual nation, and both English and French are official languages, but an increasing number of new Canadians are not native speakers of English or French. Educational policies which support and promote the teaching of heritage languages in schools can serve to maintain multiculturalism and increase respect for and understanding of cultural diversity in Canada (Hyekyung, 2022). Multiculturalism has become an important theme in Canadian education, promoting understanding of and respect for different cultures.

The Canadian Charter of Rights and Freedoms has influenced constitutional law and government policies in many countries around the world, and Canadian society has become increasingly tolerant over decades, a trend which has caused diversity to become a key element of national government policy since the 1960s (Gaudreault-Desbiens & Vogin, 2021). While the influence of British and French culture remains, the importance of the original colonial cultures has been weakened over generations and successive waves of immigration from an increasing number of countries. In a country as diverse as Canada, the basic concept of tolerance in a free and open society has become the practical cornerstone of a national identity.

Immigration Policy in Developed Countries

Canadian immigration policy has been highly successful at integrating new immigrants into Canadian society and into the work force, allowing them to become productive members of a country with high social mobility, but improvements can still be made. Canada and Australia have been successful at using immigration policy to improve national economic performance, although Canada may need to do more to include companies in the immigration process, to improve the evaluation process of foreign qualifications, and to increase the economic rewards for immigrant workers (Harrap, Hawthorne, Holland, McDonald, & Scott, 2022). Measures have been taken to accelerate the process for immigrant applications, and more foreign qualifications are being recognized and accepted. Immigration policies in Canada and in countries such as New Zealand and Australia are focusing increasingly on attracting highly skilled foreign workers, high-paying foreign students, temporary work programs for foreigners, and on settling immigrants in a wide range of regions instead of concentrating on major urban centers (Akbari & MacDonald, 2014). The competition between many developed countries to attract highly skilled and educated foreign workers and students is intensifying each year.

Current immigration trends are similar in countries such as Canada, New Zealand, Australia, and the United States which have historically relied on immigration for population and economic growth. Canada has had higher rates of immigration than most developed countries from an increasing number of countries and cultures around the world for decades and this trend, unlike the situation in many other developed countries, is supported by a majority of the population and by all the major political parties (Trebilcock, 2019). The political consensus on the importance of and the need for increased immigration helps the Canadian government to formulate coherent, effective, long-term immigration policies and support programs with substantial benefits for the national economy. If current immigration trends continue, Canada's growing multicultural population could surpass the population of many major industrial nations such as Germany, Japan, France, Italy, and Great Britain before the end of the century.

Implications and Conclusions

The current size of the Canadian population and economy cause Canada to be considered a middle power in the world, but a rapidly growing population combined with efficient economic management and increasing international trade and cultural connections may result in a substantial increase in Canadian influence in world affairs in the coming decades. The merit-based Canadian approach to immigration is effective at increasing economic results and may become a model system for countries faced with declining populations and the possibility of economic stagnation (Harrap, Hawthorne, Holland, McDonald, & Scott, 2022).

Multicultural countries such as Canada which are able to successfully and rapidly integrate high numbers of skilled immigrants while maintaining social cohesion in a peaceful, tolerant, and prosperous society, may be able to substantially increase their economic power and to continue to improve the standard of living of their citizens.

References

- Akbari, A. H., & MacDonald, M. (2014). Immigration policy in Australia, Canada, New Zealand, and the United States: An overview of recent trends. *The International Migration Review*, 48(3), 801–822. Retrieved October 19, 2023 from EBSCO database.
- Bartman, I., Touchie, C., Topps, M., & Boulet, J. R. (2022). Facilitating the path to licensure and practice: International medical graduates in Canada. *Journal of Medical Regulation*, 108(3), 18–26. Retrieved October 12, 2023 from EBSCO database.
- Dungan, P., Fang, T., & Gunderson, M. (2013). Macroeconomic impacts of Canadian immigration: Results from a macro model. *British Journal of Industrial Relations*, 51(1), 174–195. Retrieved October 11, 2023 from EBSCO database.
- Ellis, E. G. (2023). Race and neoliberalism in the labour market: Integration of international student graduates in Canada. *Journal of International Students*, 13(3), 342–361. Retrieved October 14, 2023 from EBSCO database.
- Elrick, J. (2022). Bureaucratic implementation practices and the making of Canada's merit-based immigration policy. *Journal of Ethnic & Migration Studies*, 48(1), 110–128. Retrieved October 9, 2023 from EBSCO database.
- Gaudreault-Desbiens, J.-F., & Vogin, F. (2021). Canada's kaleidoscopic diversity and constitutional law: A solution in search of a problem, or all that glitters is not gold? A brief history of a work in progress. *European Review of Public Law*, 33(1), 635–665. Retrieved October 11, 2023 from EBSCO database.
- Graham, N., & Pottie, S. Y. (2022). Higher education, international student mobility, and regional innovation in non-core regions: International student start-ups on “the rock.” *Canadian Geographer*, 66(2), 234–247. Retrieved October 12, 2023 from EBSCO database.
- Green, A. G., & Green, D. A. (1999). The economic goals of Canada's immigration policy: Past and present. *Canadian Public Policy / Analyse de Politiques*, 25(4), 425–451. Retrieved October 14, 2023 from EBSCO database.
- Harrap, B., Hawthorne, L., Holland, M., McDonald, J. T., & Scott, A. (2022). Australia's superior skilled migration outcomes compared with Canada's. *International Migration*, 60(5), 91–107. Retrieved October 12, 2023 from EBSCO database.
- Haugen, S., McNally, R., & Hallström, L. K. (2023). An evaluation of policy responses to refugee resettlement in rural Canada. *Journal of Rural & Community Development*, 18(2), 106–118. Retrieved October 22, 2023 from EBSCO database.
- Hayday, M. (2010). Fireworks, folk-dancing, and fostering a national identity: The politics of Canada Day. *Canadian Historical Review*, 91(2), 287. Retrieved October 21, 2023 from EBSCO database.

- Hyekyung, S. (2022). Heritage language learning trajectories and multiple influencing factors: A multiple-case study of university-aged Korean Canadians. *Language & Literacy: A Canadian Educational E-Journal*, 24(3), 45–67. Retrieved October 5, 2023 from EBSCO database.
- Immigration, Refugees and Citizenship Canada (n.d.). Immigration matters: Canada's immigration track record. Retrieved October 19, 2023 from <https://www.canada.ca/en/immigration-refugees-citizenship/campaigns/immigration-matters/track-record.html>
- Immigration, Refugees and Citizenship Canada (2022). An immigration plan to grow the economy. Retrieved October 12, 2023 from <https://www.canada.ca/en/immigration-refugees-citizenship/news/2022/11/an-immigration-plan-to-grow-the-economy.html>
- Jeannotte, M. S. (2022). Digital platforms and analogue policies: Governance issues in Canadian cultural policy. *Canadian Journal of Communication*, 47(2), 293–312. Retrieved October 3, 2023 from EBSCO database.
- Johnstone, M. (2016). The pervasive presence of the discourse of white civility in early Canadian social work in immigration services (1900-30). *British Journal of Social Work*, 46(6), 1724–1740. Retrieved October 12, 2023 from EBSCO database.
- Leach, B. (2013). Canada's migrants without history: Neoliberal immigration regimes and Trinidadian transnationalism. *International Migration*, 51(2), 32–45. Retrieved October 19, 2023 from EBSCO database.
- Lorenzetti, L., Mancey, A., Walsh, C. A., & Lantion, V. (2023). Immigrant men and racism in Canada: Impacts on well-being and family wellness. *Canadian Ethnic Studies Journal*, 55(1), 1. Retrieved October 21, 2023 from EBSCO database.
- McLeod, M. (2023). English-language proficiency requirements for migration to Canada, Australia, the United Kingdom, and the United States, and the implications for language testing research. *Canadian Journal of Applied Linguistics / Revue Canadienne de Linguistique Appliquée*, 26(1), 1–27. Retrieved October 3, 2023 from EBSCO database.
- O'Keefe, K. J. (2023). The Hudson River Valley Loyalists in British North America: Connection, community, and continuity. *Journal of the Early Republic*, 43(2), 301–322. Retrieved October 18, 2023 from EBSCO database.
- Paquet, M. (2021). Researching, monitoring, and managing: Immigration policy work in Canada. *American Review of Canadian Studies*, 51(1), 62–77. Retrieved October 14, 2023 from EBSCO database.
- Pierson, J., Puplampu, V., & White, J. (2022). The history of black people in Canada and the intersection of policies on their settlement. *Canadian Ethnic Studies*, 54(2), 1–20. Retrieved October 22, 2023 from EBSCO database.

- Singh, V. (2022). Dynamics of affordability and immigration in the Canadian housing market. *International Journal of Housing Markets & Analysis*, 15(3), 709–732. Retrieved October 4, 2023 from EBSCO database.
- Statistics Canada (2022). Immigration. Retrieved October 15, 2023 from <https://www150.statcan.gc.ca/n1/pub/12-581-x/2022001/sec2-eng.htm>
- Trebilcock, M. (2019). The puzzle of Canadian exceptionalism in contemporary immigration policy. *Journal of International Migration & Integration*, 20(3), 823–849. Retrieved October 15, 2023 from EBSCO database.
- Triadafilopoulos, T. (2010). Global norms, domestic institutions and the transformation of immigration policy in Canada and the US. *Review of International Studies*, 36(1), 169–193. Retrieved October 21, 2023 from EBSCO database.
- Walker, J. K. (2023). Paving a new pathway to permanent residency: A Canadian-inspired proposal for international students, undocumented immigrants, and the United States. *Indiana International & Comparative Law Review*, 33(1), 323–360. Retrieved October 6, 2023 from EBSCO database.
- Wayland, S. V. (1997). Immigration, multiculturalism and national identity in Canada. *International Journal on Minority and Group Rights*, 5(1), 33–58. Retrieved October 12, 2023 from EBSCO database.
- Wright, D., & Mullally, S. (2016). ‘Not everyone can be a Gandhi’: South Asian-trained doctors immigrating to Canada, c. 1961–1971. *Ethnicity & Health*, 21(4), 340–354. Retrieved October 20, 2023 from EBSCO database.

Application of Lesson Study Using STAD-Infographic to Improve Learning Outcomes of Preservice Biology Teacher

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Abstract

Learning outcomes are seen as results manifested in the form of competencies, encompassing knowledge, skills, values, and attitudes. These competencies are derived from the instructional processes and teaching methods, stemming from the content and individuals to be taught. Cognitive learning outcomes are changes obtained in the form of knowledge at the end of the learning process. One of strategy to improve learning outcomes is using a learning model and method like STAD through lesson study. Lesson study is a coaching training or the teaching profession that consists of three stages: planning (plan), implementation of learning (Do), and reflect (see). The aim of this study was to improve learning outcomes of preservice biology teachers. The research method used is Classroom Action Research combined with lesson study consisting of three cycles. The subject were 38 bachelor Students in the Department of Biology Education, Universitas Negeri Malang who took biology learning strategy course on February 2023. The research instrument were multiple choice test (pretest and posttest) and product assessment. The results of this study showed that there was an increase in learning outcomes using STAD through lesson study.

Keywords: STAD, Lesson Study, Learning Outcomes

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Introduction

The development of education in the 21st century requires students to master various competencies and skills in order to compete by enhancing their existing skills and knowledge (Zubaidah, 2016). Education is expected to be able to develop students with a number of competencies, literacy and character obtained through a series of learning processes (Ayu, 2019). Empowerment of 21st century skills aims to students grow into individuals who can adapt to increasingly advanced developments and can solve all the problems they encounter (Zubaidah et al., 2018). Cognitive ability is an important variable in solving problems. Students must have sufficient cognitive ability or knowledge to fully understand the basic concepts of the problem they are facing so that they are able to analyze the problem correctly (Tumulo, 2022).

Learning outcomes are one of the concerns of education experts to determine the quality of education and the achievement of learning objectives. Students' cognitive learning outcomes cannot be separated from a learning model applied by the teacher. A learning model that is easy for teachers to use is the cooperative model (Slavin, 2011). Cooperative learning is a learning process in which individuals learn in small groups with each other's help. Cooperative learning gives importance to cooperation as opposed to the education system previously based on competition. teaching that involves students in the learning process to understand and learn the content of a subject (Singh & Agrawal, 2011).

Student Teams-Achievement Divisions (STAD) Learning model is the simplest form of cooperative learning and is easy to use for teachers who are new to cooperative learning (Slavin, 2011). STAD is a learning method that divides students into small groups with different levels of ability (Munir et al., 2018). STAD learning consists of five main components, namely class presentation, group study, quizzes, individual improvement scores, and group rewards, which are organized into a regular teaching activity cycle (Anas, 2014). To improve their skills in conducting learning activities, teachers are required to continuously learn through various methods, including conducting research, especially Classroom Action Research (CAR).

Classroom Action Research (CAR) is research conducted by teachers in their classrooms or schools where they teach, with the aim of improving and/or enhancing the quality of the learning process and practice (Darmadi et al., 2024). To improve their expertise in teaching specific subjects, teachers are encouraged to regularly conduct CAR. The problems researched should be significant, engaging, and within the researcher's capability in terms of skill, time, cost, and effort. The scope of the research can include curriculum, students, teachers, facilities/infrastructure, and assessment. Educational problems in specific subjects are usually multifaceted and may involve one or a combination of the issues mentioned above. To solve these problems through research, they need to be broken down into sub-problems and investigated individually. Issues arising in the learning process can be addressed by teachers through CAR.

The implementation of Classroom Action Research (CAR) will be more effective if carried out continuously and collaboratively with other teachers, one of which is through lesson study activities. Lesson study is a method to enhance teachers' abilities in the learning process by mutual learning among teachers within the same subject area or with teachers of different subjects. In countries such as Japan, the United States, and Australia, lesson study has been proven to significantly improve the quality of education in schools. Lesson study involves

real (actual) classroom teaching with students, observed by other teachers. This activity is followed by reflection or discussion sessions with other teachers, lecturers, and external commentators, including parents.

Based on the observations conducted in the Biology Learning Strategy (SPB) Offering B class for the 2022/2023 academic year, it was found that one of the 21st-century skills, namely creativity, has not been developed among the students. During the learning process, it was also observed that students did not develop creative ideas during discussions using the spider web method. In addition to creativity, students' conceptual understanding also needs improvement. This was evident from the observations showing that many students had inaccurate conceptual understandings during the discussion process. Based on these findings, an innovative learning approach is needed to enhance students' creativity and conceptual understanding.

Joyce & Calhoun, (2024) state that a learning model is a plan/pattern that can be used to shape the curriculum (learning plan), design learning materials, and guide classroom learning. This means that a learning model provides a framework and direction for teachers to teach. One interesting learning model that can help achieve classroom learning objectives is the STAD learning model. The STAD learning model is the simplest learning model. Using the STAD learning model involves student group learning, presenting new information to students each week either through verbal presentations or texts. According to (Slavin, 2011), STAD consists of five main components: class presentation, group work (teams), quizzes, individual progress scores, and group recognition (awards). The purpose of applying the STAD model in learning is to motivate students, encourage and help each other, and to master the skills presented by the teacher.

Olson (1974) states that media encompasses all forms and channels for the process of conveying information. Smaldino, (2008) define media as anything that can deliver information from the source to the receiver. Based on these opinions, media plays a crucial role in presenting material and messages to stimulate students in the learning process, making them more interested and able to understand the material more easily. The use of educational media can facilitate the teaching and learning process, making language skills easier and more engaging for students. One type of educational media that can be used is infographics. Infographic media is a medium that visualizes data and conveys complex information to readers so that it is easily understood (Pang et al., 2018). Thus, infographic media falls into the category of enjoyable media because it consists of images and brief explanations of the material arranged chronologically, making it easier for students to learn. Various previous studies have proven that infographic media is suitable for use as an educational medium. One such study is by (Khomaria et al., 2017), which used infographic media to increase interest in learning social studies among students at SDN Semading Kebumen. The conclusion from Khomaria's study is that the use of infographic media can increase students' interest in learning.

Based on the background provided above, the researcher examines the issues occurring in Class B Biology Learning Strategy through classroom action research using lesson study to enhance creativity and conceptual understanding of students using the STAD model assisted by infographics, titled "Implementation of STAD Learning Model Assisted by Infographics to Enhance Creativity and Conceptual Understanding of Students in Biology Learning Strategy Course 2022/2023."

Method

The research method used is Classroom Action Research (CAR) combined with Lesson Study, consisting of three cycles. This approach is taken because the implementation of CAR becomes more effective when carried out continuously and collaboratively with other teachers, one of which is through lesson study activities. Lesson study is a method to enhance teachers' abilities in the learning process by mutual learning among teachers within the same subject area or with teachers from different subjects. The STAD learning model assisted by infographics was chosen to enhance one of the 21st-century skills of students in the Biology Learning Strategy course, Offering B, for the 2022/2023 academic year, namely creativity. Besides improving creativity, it is expected that the STAD learning model assisted by infographics will also enhance students' conceptual understanding.

- I. Cycle 1: Cycle 1 consists of three main stages, namely plan, do, and see. The plan activity was carried out on February 8, 2023, the do activity was carried out on February 9, 2023, and the see activity was also carried out on February 9, 2023.
- II. Cycle 2: Cycle 2 consists of three main stages, namely plan, do, and see. The plan activity was carried out on February 15, 2023, the do activity was carried out on February 16, 2023, and the see activity was also carried out on February 16, 2023.
- III. Cycle 3: Cycle 3 consists of three main stages, namely plan, do, and see. The plan activity was carried out on February 22, 2023, the do activity was carried out on February 23, 2023, and the see activity was also carried out on February 23, 2023.

Results

The research results outlined in this section relate to the conceptual understanding of each cycle of the classroom action research. The implementation of Classroom Action Research (CAR) begins with a pre-test, followed by post-tests for Cycles I-III. The research results outlined in this section relate to the conceptual understanding of each cycle of the classroom action research. The implementation of Classroom Action Research (CAR) begins with a pre-test, followed by post-tests for 1st until 3rd Cycles.

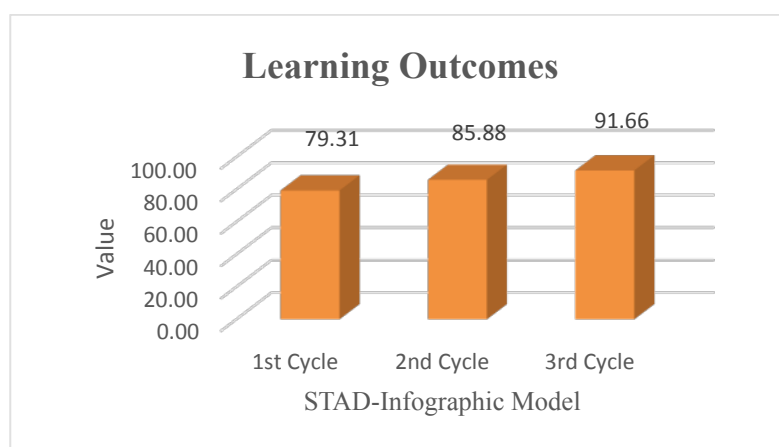


Figure 1: Average learning scores from Cycle 1 to Cycle 3

The pre-test results represent the initial conceptual understanding of students before the Classroom Action Research with Lesson Study was conducted. Cycle I learning was carried out with 37 students present, covering the topic of concepts and principles of the discovery and inquiry learning models. The model lecturer administered a post-test and assigned an infographic task. Based on the evaluation results in Cycle I using the post-test, there was an

increase in students' conceptual understanding scores compared to the pre-test. The average score for students' conceptual understanding in Cycle I was 79.31.

Cycle II learning was conducted with 37 students present, covering the topic of concepts and principles of Problem-Based Learning (PBL) and Project-Based Learning (PjBL) models. The model lecturer administered a post-test and assigned an infographic task. Based on the evaluation results in Cycle II using the post-test, there was an increase in students' conceptual understanding scores compared to the post-test scores from Cycle I. The average score for students' conceptual understanding in Cycle II was 85.88. This result can be displayed in the following graph.

Cycle III learning was conducted with 37 students present, covering the topic of concepts and principles of the Cooperative Learning model. The model lecturer administered a post-test and assigned an infographic task. Based on the evaluation results in Cycle III using the post-test, there was an increase in students' conceptual understanding scores compared to the post-test scores from Cycle II. The average learning score for students in Cycle III was 91.66. This result can be displayed in the following graph.

Discussion

1st Cycle

The implementation of Cycle I learning was conducted on February 9, 2023, in the Biology Learning Strategy Offering B class, with 37 students and 2 observers present. The learning topic was the concepts and principles of the discovery and inquiry learning models. The class used the STAD learning model. At the end of the lesson, the model lecturer provided a Learning Activity Sheet (LAS) consisting of 6 questions and an infographic assignment. However, due to limited time, the completion of the LAS was continued asynchronously, with a submission deadline on Tuesday, February 14, 2023, at 11:59 PM WIB. The model lecturer also provided a link to the post-test asynchronously via the WhatsApp group on Tuesday, February 14, 2023, at 5:00 PM WIB, with the submission deadline set for 11:59 PM WIB.

Based on the observations of the two observers, the lesson did not finish on time due to issues with the classroom. The model lecturer spoke loudly and did not stay in one place, instead monitoring each student during both the pre-test and the LAS completion. However, during the pre-test, the model lecturer did not inform the students beforehand that the questions would include multiple-choice and open-ended formats, causing students to need more time to complete the pre-test. An admirable quality of the model lecturer was the ability to handle difficulties calmly and without panic. The model lecturer also explained the syntax of the STAD model being implemented to the students, which is rarely done in class and usually only written in the learning materials.

2nd Cycle

The implementation of 2nd Cycle learning was conducted on February 16, 2023, in the Biology Learning Strategy Offering B class, with 38 students and 2 observers present. The learning topic was the concepts and principles of Problem-Based Learning (PBL) and Project-Based Learning (PjBL) models. At the end of the lesson, similar to Cycle I, the model lecturer provided a Learning Activity Sheet (LAS) consisting of 6 questions and an

infographic assignment. However, due to limited time, the completion of the LAS was continued asynchronously, with a submission deadline on February 21, 2023, at 11:59 PM WIB. The model lecturer also provided a link to the post-test asynchronously via the WhatsApp group on February 21, 2023, at 4:40 PM WIB, with the submission deadline set for 11:59 PM WIB.

According to the observations of the two observers, a commendable aspect of the model lecturer is their clear and confident voice, mastery of the subject matter, and effective classroom management skills. Additionally, the model lecturer is able to maintain focus and promptly seek solutions to issues that arise during the lesson. As previously mentioned by the model lecturer, there was an unplanned incident, yet they remained calm and effectively managed the class. During group presentations, due to the large number of students (38), observers noted that some students appeared less focused and were busy with other tasks on their laptops. Another observer also noted a similar situation during the classical question-and-answer session after the presentations, where some students were focused on their laptops. This issue can be anticipated in the next cycle by advising students to only use laptops during group discussion activities (LAS completion). Prior to that, it would be best not to use laptops.

Furthermore, a valuable lesson from 2nd Cycle learning activities is that the model lecturer used interesting and contextual precepts to enable students to distinguish the principles of PBL and PjBL learning models. With effective precepts, it enhanced students' understanding of the concepts behind the PBL and PjBL learning models, thus achieving today's learning objectives successfully. Consequently, there was an improvement in students' conceptual understanding from 1st Cycle to 2nd Cycle.

3rd Cycle

The implementation of 3rd Cycle learning was conducted on February 23, 2023, in the Biology Learning Strategy Offering B class, with 38 students and 2 observers present. The learning topic was the concepts and principles of Cooperative Learning models (STAD, Think Pair Share, Jigsaw, Group Investigation, Number Head Together, Teams Games Tournament, Cooperative Integrated Reading and Composition). At the end of the lesson, similar to previous cycles, the model lecturer provided a Learning Activity Sheet (LAS) consisting of 6 questions and an infographic assignment. However, due to limited time, the completion of the LAS was continued asynchronously. The model lecturer also provided a link to the post-test asynchronously via the WhatsApp group on February 28, 2023, at 4:14 PM WIB, with the submission deadline set for 11:59 PM WIB.

In addition, during 3rd Cycle of the learning process, there was a finding during the discussion session where the model lecturer modified the questions in the LAS. The model lecturer realized that the questions in the LAS were too general, considering that Cooperative Learning encompasses various types. This could potentially impact the learning objectives intended to be achieved. Subsequently, the model lecturer revised the questions in the LAS for each group with different types of Cooperative Learning, allowing each group to delve deeper into specific Cooperative Learning types. Thus, this issue was addressed and followed by group discussions.

STAD-Infographics on Student Learning Outcomes

Learning outcomes are the achievements of student learning after instruction. Student learning outcomes encompass three aspects: affective, psychomotor, and cognitive (Robiyanto, 2021). Learning outcomes serve as an indicator to assess students' learning effects and can be used to evaluate learning activities (Lin et al., 2017). Learning outcomes are influenced by both external and internal factors. External factors include environmental factors and instrumental factors such as teachers, curriculum, and teaching models, while internal factors originate from physiological and psychological factors such as intelligence, achievement motivation, and cognitive abilities (Yandi et al., 2023).

According to Purwaningtyas et al., (2021), one form of learning that provides students with their own work and experiences, commonly known as constructivist learning, is cooperative learning. Cooperative models can enhance students' learning outcomes because students are directly involved in creating, allowing them to remember the material longer and be motivated in classroom learning activities. Through the STAD model, students are taught to collaborate, assist, and support each other. This can enhance students' social skills in interacting with others and help foster positive attitudes and respect for individual differences. The STAD model provides opportunities for each group member to contribute to achieving learning goals. This can boost students' motivation and self-confidence, as well as help them feel more motivated and engaged in the learning process. This is in line with the research findings of Utami (2016), that cooperative learning like STAD can improve students' learning outcomes.

The STAD learning method is used by teachers to form teams consisting of individuals with various skills and knowledge who work together (Setiawan & Basyari, 2017). The benefits of STAD learning include: improving critical thinking skills, creative thinking, cognitive learning outcomes, process skills, understanding and acquisition of knowledge, group member concern, mathematical problem-solving abilities, communication and collaboration among students, fostering social solidarity, students' teamwork skills, positive influence in subjects, and enhancing students' interest in learning (Ramadhan et al., 2016).

The STAD model allows students to assist each other in understanding and mastering the learning materials. Thus, each group member can help and support one another in achieving a better understanding of the learning materials. In the STAD model, learning groups are expected to collectively achieve learning objectives. Therefore, the STAD model can enhance students' overall learning outcomes.

Conclusion

Based on the results and discussion of this study, the conclusions are as follows:

1. The biology teaching using the STAD learning model assisted by infographics through lesson study shows that all students in Offering B 2023 were able to participate well in the learning process based on the assessment results of infographic assignments and post-tests.
2. The STAD learning model assisted by infographics can enhance students' creativity, as evidenced by the average creativity scores of students in Offering A 2023 being in the high category.
3. The STAD learning model assisted by infographics can improve the learning outcomes of students in Offering B 2023.

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References

- Anas, M. (2014). *Mengenal metode pembelajaran*. CV. Pustaka Hulwa.
- Ayu, P. E. S. (2019). Keterampilan Belajar dan Berinovasi Abad 21 pada Era Revolusi Industri 4.0. *Purwadita*, 3(1), 77–83.
- Darmadi, Rifai, Muh., Rositasari, F., & Haryati, N. (2024). Analisis Penerapan Penelitian Tindakan Kelas (PTK) di Sekolah. *MARAS: Jurnal Penelitian Multidisiplin*, 2(1), 261–266. <https://doi.org/10.60126/maras.v2i1.161>
- Joyce, B., & Calhoun, E. (2024). *Models of Teaching*. Routledge. <https://doi.org/10.4324/9781003455370>
- Khomaria, I., Kartono, & Lestari, L. (2017). Penggunaan Media Infografis Untuk Meningkatkan Minat Belajar IPS Pada Siswa Sekolah Dasar. *Jurnal Didaktika Dwija Indria*. *Didaktia Dwija Indria*, 5(4).
- Lin, M.-H., Chen, H.-C., & Liu, K.-S. (2017). A Study of the Effects of Digital Learning on Learning Motivation and Learning Outcome. *Eurasia Journal of Mathematics, Science and Technology Education*, 13(7), 3553–3564. <https://doi.org/10.12973/eurasia.2017.00744a>
- Munir, M. T., Baroutian, S., Young, B. R., & Carter, S. (2018). Flipped classroom with cooperative learning as a cornerstone. *Education for Chemical Engineers*, 23, 25–33. <https://doi.org/10.1016/j.ece.2018.05.001>
- Olson, C. L. (1974). Comparative Robustness of Six Tests in Multivariate Analysis of Variance. *Journal of the American Statistical Association*, 69(348), 894–908. <https://doi.org/10.1080/01621459.1974.10480224>
- Purwaningtyas, F. D., Zuroidah, A., Nilam, N. N., & Sela, N. P. (2021). Efektivitas Pola Asuh Orangtua dan Penggunaan Gadget Terhadap Perkembangan Psikososial di Tengah Pandemi Covid 19 untuk Siswa Sekolah Dasar. *Jurnal Basicedu*, 6(1), 479–490. <https://doi.org/10.31004/basicedu.v6i1.1955>
- Ramadhan, F., Mahanal, S., & Zubaidah, S. (2016). Potensi Remap STAD (Reading Concept Mapping Student Teams Achievement Division) untuk Meningkatkan Keterampilan Berpikir Kritis Siswa. *Proceeding Biology Education Conference*, 203–208.
- Robiyanto, A. (2021). Pengaruh Model Problem Based Learning terhadap Hasil Belajar Siswa. *Mahaguru: Jurnal Pendidikan Guru Sekolah Dasar*, 2(1), 114–121. <https://doi.org/10.33487/mgr.v2i1.1752>
- Setiawan, A., & Basyari, I. W. (2017). Desain Bahan Ajar Yang Berorientasi Pada Model Pembelajaran Student Team Achievement Division Untuk Capaian Pembelajaran Pada Ranah Pemahaman Siswa Pada Mata Pelajaran IPS Kelas VII SMP Negeri 1 Plered Kabupaten Cirebon. *Edunomic Jurnal Pendidikan Ekonomi*, 5(1), 17. <https://doi.org/10.33603/ejpe.v5i1.431>

- Singh, & Agrawal. (2011). Introduction to Co-Operative Learning. *Indian Streams Research Journal*, 1(2), 1–9.
- Slavin, R. E. (2011). Instruction based on cooperative learning. In *Handbook of research on learning and instruction* (pp. 358–374).
- Smaldino, E. S. (2008). *Instructional Technology and Media for Learning* (Ninth). Upper Saddle River.
- Tumulo, T. I. (2022). Meningkatkan Hasil Belajar Siswa Melalui Pendekatan Inquiri Pada Mata Pelajaran Bahasa Inggris Kelas XII SMA Negeri 4 Gorontalo. *Jurnal Pendidikan Masyarakat Dan Pengabdian*, 2(2).
- Utami, S. (2016). Peningkatan Hasil Belajar melalui Pembelajaran Kooperatif Tipe STAD pada Pembelajaran Dasar Sinyal Video. *Jurnal Pendidikan Teknologi Dan Kejuruan*, 22(4), 424. <https://doi.org/10.21831/jptk.v22i4.7840>
- Yandi, A., Nathania Kani Putri, A., & Syaza Kani Putri, Y. (2023). Faktor-Faktor Yang Mempengaruhi Hasil Belajar Peserta Didik (Literature Review). *Jurnal Pendidikan Siber Nusantara*, 1(1), 13–24. <https://doi.org/10.38035/jpsn.v1i1.14>
- Zubaidah, S. (2016). Keterampilan Abad Ke-21: Keterampilan Yang Diajarkan Melalui Pembelajaran. In *Seminar Nasional Pendidikan*. Universitas Negeri Malang.
- Zubaidah, S., Mahanal, S., Ramadhan, F., Tendrita, M., & Ismirawati, N. (2018). Empowering Critical and Creative Thinking Skills through Remap STAD Learning Model. *Proceedings of the 2nd International Conference on Education and Multimedia Technology*, 75–79. <https://doi.org/10.1145/3206129.3239435>

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Leviathan and Restricted Local Financial Independence as the Consequences of the COVID-19 Crisis: The Case of Poland

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Abstract

The article discusses selected impacts of the fiscal policy conducted by Poland's government from 2020 to 2022. The countermeasures it implemented in the public finance area in response to the COVID-19 pandemic to support industries most affected by lockdowns and local governments, mainly through special-purpose funds, entailed an uncontrolled surge in public spending, as well as increasing public debt, the centralisation of decision-making, and the obscurity of the public finance system. The unfolding pandemic crisis was aggravated by the war in Ukraine and its consequences. The article's main focus is on analysing local governments' financial independence, which suffered from the establishment of special-purpose (off-budget) funds and the national tax system reform. Changes in local financial independence are examined based on structural ratios of local authorities' own and total revenues and less quantifiable measures enabling the government to gain more authoritarian executive power. The analysis is set in a wider historical context outlined by Michael Wohlgemuth, a German economist, philosopher, and historian of ideas, in relation to the COVID-19 pandemic and the Leviathan hypothesis. Special measures and regulations that governments use to tackle crises and extraordinary situations may impair the mechanisms of democratic control and serve as an excuse for governments to expand their executive and political powers. Historical experience shows that special processes, instruments, and practices are difficult to eliminate; consequently, they become part of the post-crisis system, which frequently leads to the emergence of Leviathan.

Keywords: Fiscal Decentralisation, Local Self-Government, Leviathan Hypothesis

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1. A Brief Introduction to the Leviathan Hypothesis and Its Evolution

Leviathan is an Old Testament sea monster whose name is used today to denote a state that is both ineffective and challenges the standards of democratic government. The risk of states turning into Leviathan was noticed by J.M. Buchanan in his 1975 book “The Limits of Liberty: Between Anarchy and Leviathan”. Five years later, Buchanan and Brennan (1980, p. 185) formulated a Leviathan hypothesis, according to which: “*Total government intrusion into economy should be the smaller, ceteris paribus, the greater the extent to which taxes and expenditure are decentralised*”. The hypothesis, which also applies to the public sector in general and its efficiency in decentralised government systems, is understood by economists quite broadly and has been studied with respect to various components of the public sector. Brennan’s and Buchanan’s early interests focused on the capacity of a state to generate revenue depending on legislative solutions in force and the relationship between the construction of taxes and the level of revenues and taxpayers’ reactions. The empirical evidence from later years has confirmed on many occasions that the inclination of all tiers of government to borrow is associated with the election cycle. Brennan and Buchanan have identified several factors that can potentially reduce the authorities’ ability to generate revenue and concluded that a federal (decentralised) government system can contain the public sector’s fiscal tendencies and its expansion if public revenues and expenditures are decentralised and there exist a large number of relatively homogenous territorial units of government that compete with one another. This assumption was immediately and heavily criticised because high mobility of taxpayers is specific to the United States of America, whereas in Europe, where unitary countries markedly outnumber federal countries, it is much lower. In 1986, M.A. Nelson (1986) published the results of a study that used a simplified model of the political and fiscal behaviours of different levels of government to determine how particular elements of a federal structure contribute to the total amount of public revenues. Nelson’s study largely confirmed the assumptions of the Leviathan hypothesis, unlike many other investigations, which yielded ambiguous results (Ashworth, Galli, Padovano, 2013). Nevertheless, economists tend to agree that the quality of decentralisation and the true autonomy and fiscal independence of local governments are of crucial importance (Guziejewska, 2018, 2021a). One factor contributing to the conflicting findings of econometric studies is different designs of tax systems and discrepancies in the extent and quality of decentralisation of public finances.

Faced with extraordinary situations, governments tend to reach for extraordinary measures and regulations that may weaken democratic controls and push the boundaries of governments’ executive and political powers. History shows that special procedures, solutions and practices may stealthily grow into the system in place and are hard to eliminate. One of the first researchers to consider this process from the Leviathan hypothesis standpoint was Michael Wohlgemuth (2021), a German economist, philosopher, and historian of ideas. He observed that Germany’s spending kept increasing throughout the post-war period, that the scale of interventionism during the pandemic was particularly large, and that a portion of the German public favoured the centralist model of government and central decision-making, particularly in extraordinary circumstances. This made him conclude that the German belief in the government’s responsibility for handling nationally important matters even strengthened during the pandemic. His findings on Germany can be summarised as follows:

1. Past experiences imply that many of the measures and solutions that the German government designed and implemented to fight the pandemic will very probably be maintained after it goes away.

2. The last hundred years of German history prove the existence of Leviathan. Germany exceeds the Scandinavian countries in terms of tax burden and social policy, the latter consuming 45% of all government spending. Wohlgemuth's partially attributes this to the unification of Germany, which was also an extraordinary event.
3. Germany's spending on pandemic countermeasures was greater than in any other country; as a result, the national debt level and borrowing in 2020 reached about 5% of the country's GDP. Yet, no attempt was made to review public expenditures and special laws on borrowing were re-authorized for future years.
4. The pandemic disturbed the balance of powers between the federal government and the federal and state legislatures. The ensuing crisis provided space for the federal government to make decisions based on questionable procedures, resulting in courts revoking a number of COVID-19 regulations.

States turn into Leviathans gradually and barely noticeably. Societies facing menacing situations, such as the COVID-19 crisis, whose scale and demands have been unprecedented in modern history, are willing to accept most measures proposed by the government. But allowing authorities to keep them longer than necessary involves many risks because they may shield those in power from democratic and political accountability. Thus, their impacts and consequences must be closely watched for symptoms of Leviathan.

2. The Directions of Poland's Fiscal Policy During the COVID-19 Pandemic

A distinctive feature of the Polish government's response to the pandemic was the creation of special-purpose funds to protect vulnerable sectors and areas.

Politicians' tendency to 'corrupt' public finances has a long history and is frequently debated and discussed in many countries. In Poland, it is usually interpreted in terms of excessive public borrowing, irrational spending, tampering with public the deficit and debt, and establishing special-purpose funds and similar vehicles for the off-budget management of public funds (Jastrzębska, 2022, Poniatowicz, 2022). In recent years, the use of such solutions by decision-makers has increased on the excuse of fighting the COVID-19 pandemic. Poland's government's inclination to shift expenditures and debt off the budget has reached the dimensions of a serious problem.

The 2020 macroeconomic situation in Poland and the public finance sector's ability to collect and spend revenues were affected by the unfolding COVID-19 pandemic. The severity of its impacts required special financial effort to ease them. Most anti-pandemic funds were obtained from off-budget sources, including (Report on the State's Budget Performance from 1 January to 31 Dec. 2020, Warsaw 2021):

- the national budget and the EU budget – PLN 23.2 bn,
- the COVID-19 Response Fund – PLN 92.7 bn,
- Financial Shields of the Polish Development Fund – PLN 63.5 bn.

The bill of the New Order (officially called the Polish Order), released by the ruling coalition in May 2021, corroborated its inclination to manage public funds off-budget through a growing number of special-purpose funds. The creation of a fund dedicated to financing the modernisation of the country was announced, whose resources, in conjunction with the PLN 770 bn available under the EU's coherence policy and the Recovery and Resilience Facility, were to support local investment projects to move Poland closer to the "European" standard

of living promised by the government. Also made public were the plans to launch several other programs, probably also funded through special funds.

A serious problem in Poland's finances is the level of debt, which drew reservations already in 2020 following the amendment of the budget act. The economists discussed it in the wider context of the liabilities of the Polish Development Fund, the COVID-19 Response Fund, and Bank Gospodarstwa Krajowego – BGK (Bratkowski, 2020). W. Misiąg's (2020, pp. 3-11) expert opinion warned against a policy of creating various types of reserves and an ostensible reduction of the 2020 *bill* budget deficit by around PLN 21 bn by shifting some expenditures to special-purpose funds and using Treasury securities to finance selected beneficiaries. A case of particularly poor budgeting practice was the decision to mandate the payment of so-called thirteenth pensions, social disability pensions, and funeral allowances to the Solidarity Fund, as such payments are customarily made by the Social Insurance Fund (FUS). However, the decision made it possible for the government to claim that the financial situation of the FUS, which usually runs at a deficit, was good and consequently reduce the government grant for it. An unprecedented event regarding the transparency of public finance management was the 2020 budget act failing to explain how the Solidarity Fund's expenditures exceeding its revenues would be funded (Guziejewska, 2021b).

A lack of transparency is also a serious problem regarding the cooperation between the BGK and the COVID-19 Response Fund, which was established to support the public sector. The BGK was appointed as an institution responsible for enabling the COVID-19 Response Fund to accomplish its goals, securing its liquidity, and financing it, mainly through the issuance of bonds. In 2021, the BGK projected bond issues worth up to PLN 39.7 bn. However, such information frequently has to be sought from PAP Biznes because it is not provided in the budget act, or from BGK's communications. For instance, the BGK's communication of 30 Nov. 2021 informed about the possibility of the National Bank of Poland holding a single competitive sale of BGK's bonds on behalf of the COVID-19 Response Fund in December 2021. However, the announcement made an interesting reservation from the national debt perspective that the date of the sale was contingent on the market situation and the Fund's financial needs. It implied a limitation of the Ministry of Finance powers over public debt management.

3. (Un)Restricted Financial Independence and Autonomy of Local Governments or Non-transparency of Public Finances as a Consequence of the COVID-19 Pandemic

The following analysis compares Polish municipalities in terms of their financial independence before and after the COVID-19 pandemic based on the structural debt-to-revenue ratios. Municipalities constitute the basic tier of local government. A thesis is formulated that although the government did not make direct changes to the local government financing system in the period under study, its indirect actions reduced municipalities' financial independence. Although intended to defuse and mitigate the adverse impacts of the pandemic, the government's policy also brought lower transparency of public finances and lower autonomy of local governments. However, the statistics do not clearly show the other effect because some data from the analysed years are not comparable, some of the funds municipalities received from the special-purpose funds were misclassified as their own revenues, and budget transfers intended to compensate municipalities for the consequences of new legislation have made the local financing system even less transparent than it was. Furthermore, as of 1 June, municipalities ceased to disburse benefits under the Family 500+ programme, for which they received specific grants from the budget. Therefore, the

incomparability of the structures of municipalities' own and external revenues is due to the confluence of several factors. Tables 1 and 2 contain selected numbers that give an insight into the structure of municipal revenues and demonstrate that even a small change to how data are presented may render them incomparable and ambiguous.

Table 1. Municipal revenues and their structure in 2018 and 2019

Specification	2018	2019			
	Performed (PLN thousands)	Performed (PLN thousands)	% of plan	change (2018=100%)	structure (%)
Total revenue, in which:	121,425,597.4	135,161,458.3	98.6	111.3	100.0
own revenues	52,529,209.6	58,482,654.5	100.8	111.3	43.3
Specific grants, incl.:	40,537,117.0	46,258,738.2	95.0	114.1	34.2
- commissioned tasks, incl.:	29,113,294.2	34,715,915.9	99.3	119.2	25.7
- "the Family 500+" programme	16,696,699.3	21,910,362.4	99.6	131.2	16.2
General grants	28,359,270.8	30,420,065.5	100.1	107.3	22.5

Source: Sprawozdanie z działalności Regionalnych Izb Obrachunkowych i wykonania budżetu przez jednostki samorządu terytorialnego w 2022 r. (Report on the Activities of the Regional Chambers of Audit And Local Governments' Performance of Their 2022 Budgets), RIO, Warsaw 2023.

Table 2. Municipal revenues and their structure from 2020 to 2022

Specification	2020	2021	2022			
	Performed (PLN thousands)	Performed (PLN thousands)	Performed (PLN thousands)	Performed (%)	Structure (%)	Rate of change (2021=100%)
Total revenues, incl.:	149,090,469.5	163,483,714.8	171,813,485.5	96.1	100.0	105.1
General grants	31,611,735.5	40,891,984.0	34,902,604.1	100.1	20.3	85.4
Grants and funds	59,634,894.4	56,819,753.6	60,835,186.2	90.2	35.4	107.1
Shared taxes (PIT and CIT)	24,167,399.8	27,488,842.5	31,652,503.0	103.1	18.4	115.1
Other revenues	33,676,439.8	38,283,134.7	44,423,192.2	96.8	25.9	116.0

Source: see Table 1.

The tax system changes introduced by the Polish Deal in 2021 decreased municipalities' revenues. The attempts to mitigate their impact undermined and dismantled the existing local self-government financing system. They were also criticised for being inadequate, and the special-purpose funds and governmental programmes distributing compensation funds were accused of using political criteria. The Union of Polish Metropolises estimated the municipal revenue loss in the last decade at as much as PLN 145bn.

The expansion of municipalities' debt between 2016 and 2020 was followed by a downward trend from 2021 to 2022, related to pandemic-related lockdowns and the EU tightening its investment budget.

Table 3. Municipal debt level and debt-revenue ratios between 2016 and 2022

Year	2016	2017	2018	2019	2020	2021	2022
Total debt (PLN thousands)	23,863,530	24,838,221	30,095,513	32,410,134	34,235,950	34,175,694	34,105,690
Debt-revenue ratio	32.4%	22.3%	24.8%	24.0%	23.0%	20.9%	19.9%

Source: see Table 1.

4. Conclusions and Final Remarks

The above discussion demonstrates that the publicly available financial statistics and ratios need to be carefully examined in terms of their qualitative contexts, because numbers alone do not show the extent to which the financial independence of Poland's municipalities changed in the period under study. The incomparability and lower transparency of local government statistics are due to the non-standard and extraordinary measures that the government implemented in the public finance area. Local government officials and advocates, economists, and researchers studying financial decentralisation have for several years been trying to call attention to a regression in decentralisation processes in Poland. As a result of the steadily increasing number of off-budget vehicles during and after the pandemics and the misclassification of transfers from the special-purpose funds to local governments as own their revenues, the Regional Chambers of Audit's statistics have become incomparable. Worse still, following Russia's invasion of Ukraine in February 2022, processes obscuring public expenditures, financing public tasks through special-purpose funds rather than the budget, and cases of public procurement rules being rejected on account of the extraordinary situation became even more common. The Polish government's financial policy in the crisis years threw the public finance sector into chaos and obscurity. Analysing municipalities' budget deficits and liabilities to determine their real financial condition has become of little avail because, in the wake of lockdowns, they put on hold many investment projects, including those co-funded by the EU. The policy of centralisation and off-budgeting practices adopted by the Polish government between 2020 and 2022 (in response to the COVID-19 pandemic and the war in Ukraine) evidently contributed to the non-transparency of public finances. The problem of dwindling local self-governance, unreported by official statistics and implying the presence of Leviathan, has been raised in public debates by local officials for several years. One may wonder, therefore, why official statistics do not show local governments' financial problems when economists widely criticise the poor transparency of public finances.

References

- Ashworth J., Galli E., Padovano F. (2013). Decentralization as a constraint to leviathan: a panel cointegration analysis, *Public Choice*, vol. 156.
- Bratkowski A.S. (2020). Ocena założeń makroekonomicznych nowelizacji ustawy budżetowej na 2020 r. oraz jej wpływu na stabilność finansów publicznych (Evaluation of macroeconomic assumptions for the amendment of the 2020 budget act and its influence on the stability of public finances), Office of analysis, documentation and correspondence, The Senate of the Republic of Poland, OE-314, Warsaw, October 2020, pp. 7-8.
- Brennan G. and Buchanan J.M. (1980). *The Power to Tax: Analytical Foundations of a Fiscal Constitution*. Cambridge University Press, Cambridge, p. 185.
- Guziejewska B. (2018). Normative versus positive approach to fiscal decentralisation and the measures of decentralisation. An analysis based on the example of selected countries of Central and Eastern Europe, *Comparative Economic Research. Central and Eastern Europe*, vol. 21, no. 1. University of Lodz Press.
- Guziejewska B. (2021a). A Comparative Approach to Fiscal Illusions: A Synthesis of the Conclusions from a Polish Study in Relation to New Ideas and Empirical Research in Selected Countries, *Comparative Economic Research. Central and Eastern Europe*, vol. 24 no. 2. University of Lodz Press.
- Guziejewska B. (2021b). Wybrane problemy strukturalne i instytucjonalne finansów publicznych w warunkach kryzysu wywołanego COVID-19: refleksje nad ewolucją paradygmatu (Selected Structural and Institutional Problems in Public Finances Under the COVID-19 Crisis: Reflections on A Paradigm Evolution) [in] *Finanse Publiczne*, Komitet Nauk o Finansach PAN, Warsaw 2021, p. 31ff.
- Jastrzębska M. (2020). Public Finance in Poland in a COVID Fog: A Look Through the Lens of Fiscal Transparency and Accountability, *Studies In Logic, Grammar And Rhetoric* 67 (80), pp. 375 – 396.
- Misiąg W. (2020). Opinia o ustawie budżetowej na rok 2020 (Opinion on the 2020 Budget Act), Office of analysis, documentation and correspondence, The Senate of the Republic of Poland OE-285, Warsaw. Feb. 2020, pp. 3-11.
- Nelson M.A. (1986). An empirical analysis of state and local tax structure in the context of the Leviathan model of government, *Public Choice* vol.49, Martinus Nijhoff Publishers, Dordrecht. Printed in the Netherlands, pp. 283-294.
- Poniatowicz M. (2022). Fiscal Federalism And The COVID-19 Crisis: Theoretical Aspects And Poland's Experience, *Studies in Logic, Grammar And Rhetoric* 67 (80).
- Sprawozdanie z wykonania budżetu państwa za okres od 01 stycznia do 31 grudnia 2020 r. Omówienie, Rada Ministrów (Report on the State's Budget Performance from 1 January to 31 Dec. 2020. A Discussion, Council of Ministers), Warsaw 2021, p. 19ff.

Sprawozdanie z działalności Regionalnych Izb Obrachunkowych i wykonania budżetu przez jednostki samorządu terytorialnego w 2022 r. (Report on the Activities of the Regional Chambers of Audit And Local Governments' Performance of Their 2022 Budgets), RIO, Warsaw 2023.

Wohlgemuth M. (2021). Covid-19 and Leviathan – the German Case, Report Scenarios, Geopolitical Intelligence Services, <https://www.gisreportsonline.com/covid-19-and-leviathan-the-german-case,economy,3464,report.html>, accessed on 6 April, 2021, a study translated and published also on www.onet.pl.

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Virtual Biochemistry and Multiple Representation Laboratory as a Step in Revitalizing Online Practicum in the New Normal Era on Food Ingredient Testing Materials

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Abstract

Sars-Cov-19 was officially declared a pandemic by WHO. This causes the implementation of education in Indonesia to be carried out in a manner that includes universities. One of the improvements in competition in the form of food ingredient testing practicum, which is very important for hard skills, is now unable to be carried out properly or even not carried out. Providing a virtual laboratory during the pandemic has become an effective, efficient and economical solution, so the author created the Biochemistry Laboratory as an Online Practicum Game to Revitalize Online Practicum in the Pandemic Era. B-Lab was developed using the R&D method which consists of the determination, design, development and deployment stages. B-Lab uses a student-centered learning approach that presents a sequence of representations at the symbolic level in the form of reaction equations, at the macro level in the form of changes in the form or color of materials before and after the reaction using interactive animation design, and at the micro level at the depiction of the reaction process which is conveyed through visualization of molecular movement during reactions. B-Lab excels as a virtual laboratory that provides practical materials, work step modules or flow diagrams, evaluations or pre-tests and post-tests, scientific libraries in the form of general knowledge, discussions after practicums, and connects students and lecturers. B-Lab is a smart virtual laboratory solution that can be utilized by various universities in Indonesia in line with the goal of independent campuses in order to welcome the new normal era.

Keywords: Virtual Laboratory, Practicum, Multiple Representatives

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Introduction

Sars-Cov-19 was officially declared a pandemic by the World Health Organization on March 11 2020, based on information sourced from CNBN Indonesia (2020). The positive number for Covid is predicted to continue to rise until 2021, so this will have a negative impact on various main sectors such as the economy and education. Welcoming the new normal era, economic activities began to creep up with the elimination of PSBB (large-scale social restrictions). Likewise, the education implementation policy by the Minister of Education and Culture explains that schools in the green zone are allowed to operate but still subject to several conditions. Unfortunately, 94% of Indonesian students are in the yellow, orange and red zones, so this ensures that education in Indonesia is carried out online, including at the tertiary level.

Increasing academic competence in higher education institutions, which requires students to take practical courses to hone hard skills, has encountered obstacles due to limited space and facilities. Meanwhile, according to (Sadjati & Pertiwi, 2013) practicum is a very important activity to implement because it is able to provide experience and the process of developing scientific skills and attitudes to achieve competence in assembling tools, using laboratory equipment, conducting experiments/research, managing substances, representing experimental results, and educator assessment of practicum reports. Covid-19 is a correction that shows the main weakness of the campus digitalization system because it has not been able to cover the implementation of online practicums (Karim, 2020). This is proven by the author's survey using Google Form on July 26 2020 of 150 student respondents from several universities in Indonesia in science and technology study programs who explained the ineffectiveness of practicums in the midst of the pandemic. The results of the interviews revealed that several lecturers were trying to facilitate practicums using WhatsApp groups or Google Class. Students are asked to carry out practicums independently, collect practicum videos, only be given correct practicum results, look for references to make reports even though they are not carrying out practicums, there are even delays or elimination of practicums. The final conclusion from 81.3% of respondents stated that the practicum did not run optimally due to difficulties or not being able to imagine the practicum process, not being able to understand the practicum instructions, nor understanding the changes in several reactions, one of which occurred in the food content testing practicum.

One of the departments that felt the impact was the science and technology department such as biology, chemistry, medicine, etc. Some of these majors have to do practicum as one of the skill requirements for their future work. An important practicum that forms the basis for learning is biochemistry. This practicum can only be done in a laboratory because it uses various reagents, tools and personal protection that cannot be found at home. As a result, while online, practical work cannot be carried out. An example of biochemistry practicum is food content testing, which is part of biochemistry which provides information about chemical composition and processing (Reedijk, 2014). The practical function of food content testing is to obtain general information regarding regulations, labeling, sampling, determining chemical characteristics, physical properties, and completely discussing basic principles and application methods (Nielsen, 2003). Food content testing, including testing for carbohydrates, glucose, protein and fat, is quite complicated because it involves reactions and various stages of sequential implementation. Based on a survey, a number of departments such as biology, chemistry, science education, pharmacy, nutrition and medicine are carrying out this test, but the food content test is threatened with not being able to take place properly due to the corona virus pandemic. If they don't find a solution, quite a few students who

receive food content testing practicum experience misconceptions and don't even gain knowledge because there are no facilities and effective solutions for carrying it out independently. In fact, in the world of work, practical skills are really needed for pure and education majors who will later become teachers (Subiantoro, 2010).

The problem of online learning which limits practicum because it cannot be carried out in the laboratory must find a bright spot so that it remains effective, efficient, and the material can be received properly and correctly. Several previous studies stated that the provision of virtual laboratories has various advantages including (1) Reducing geographical barriers, (2) Saving time, (3) Economical, does not require expensive laboratory buildings, tools and materials like conventional laboratories which are sometimes expensive and easy to use. damaged, (4) Increase understanding of the experiment, because it allows it to be repeated to clarify the experiment, (5) Increase the effectiveness of learning (Kusumaningsih, Iswahyudi and Susanti, 2014). Another supporter is the statement by Sudaryana and Doharma (2019) which states that using simulation games will increase students' understanding and motivation to learn, because games are used interactively so that students will understand the concept of the material better. Games also increase enthusiasm in students. Students do not feel burdened when receiving the material because it feels like playing a fun game (Haswan & Al-Hafiz, 2017). Based on existing problems and technological advances and in line with the learning agenda in the Independent Campus based on the Ministry of Education and Culture (2020) where the government provides challenges and opportunities to develop students' creativity, personality, capacity and needs, as well as developing independence, the author created a biochemistry virtual laboratory as a practical game online as a revitalization of online practicum in the pandemic era.

The research objective is to create a Virtual and Multiple Representative Biochemistry Laboratory. Testing the effectiveness and ease of use of the Virtual and Multiple Representative Biochemistry Laboratory. Testing the validity of the Virtual and Multiple Representative Biochemistry Laboratory media. The purpose of this research is to produce effective and valid virtual laboratory learning media, provide learning media references that can replace online practicums, and apply for product patents.

Method

This type of research is development research using the R&D method which consists of the define, design, development and disseminate stages (Thiagarajan, et al., 1974) but the stage targeted by researchers is development. This study focuses on developing a virtual laboratory game that can facilitate online practicum by providing a virtual practicum space, materials, and a place to collect reports. Material taken from RPS Biology Department, FMIPA UM. Data collection techniques were obtained through media practicality test questionnaires, observations and interviews.

Definition Stage (Define), the first stage that must be carried out is front-end analysis which aims to analyze the problems faced in practicum learning in the Department of Biology, State University of Malang. Next is learner analysis by identifying students to find out problems, knowledge, desires and characteristics of target users. The next step is ask analysis with the aim of identifying the skills and abilities that target users (students) must have in the material. The final step is specifying instructional objectives to determine specific media output.

The media design stage is developed in several activities, namely constructing criterion-referenced tests, media selection, format selection, and initial design. The first stage of preparing the criteria test is used to determine the user's initial abilities. The second stage of media selection is adjusted to the results of the evaluation and analysis of concepts and characteristics of students carried out in the previous stage. Media design starts with compose a prototype using Adobe Illustrator to form 2Dmedia assets. A further application is Adobe XD to see a full preview of the workflow on the UI to better present the prototype. The design of the practical process in the virtual laboratory room was developed using the Construct 2 application, which produces the final display in the form of a 2D game in HTML 5 format which can be exported to Android. The third stage is selecting the format, designing a virtual laboratory learning media that will contain learning material. The design is displayed in the form of a story board containing the virtual laboratory display design. The final stage is the close beta version design in the form of an overall design of the components of the B-Lab media before being validated and ready to be tested. The final result of this media is a virtual laboratory in the form of an .apk file that can be installed on an Android device with at least Android 4.1 Jellybean.

At the development stage, validation tests are carried out by media and material experts and development trials are carried out. The validation stage is carried out on practical instructions and materials to validate and assess the suitability of the media. The expert team involved in the validation process is media experts (media experts) and experts in the field of Biochemistry (material experts). Meanwhile, development trials were carried out using assessment questionnaires on real target subjects. Researchers carry out research up to the development stage.

Results and Discussion

Results

Results of virtual laboratory game development. The branding name of the biochemistry laboratory application as an online practicum game as a revitalization of online practicum in the pandemic era. Biochemistry laboratory is a game that contains a biochemical laboratory simulation on food test materials. Not only is the Biochemistry laboratory educational, it also makes learning fun. B-lab presents a complete representative visualization of biochemistry practicum starting from material, interactive practicum, as well as quizzes. The universal biochemistry laboratory is able to provide the opportunity for the sensation of learning in the laboratory. B-lab is very suitable for use in the online learning era, and also equalizes the practical abilities of all students in Indonesia. The genre of this game is an edugame simulation. The experience offered is that players will be able to experience biochemical practicum testing food content in an interactive virtual laboratory room. The preparation of the virtual laboratory simulation game follows the flow of the visual game flowchart with text and 3D modeling of the chemical molecules used.

Practical material menu concept, in this menu users will be presented with written practical material and there is an icon connected to the video which is integrated with YouTube. This menu is used to make it easier for students to understand the material before doing practicum. Science library menu concept, containing unique information on biochemistry. In the form of a piece of scientific factual information in written form that is not widely known by the public. A flowchart is a path that players go through in exploring the content provided in the game.

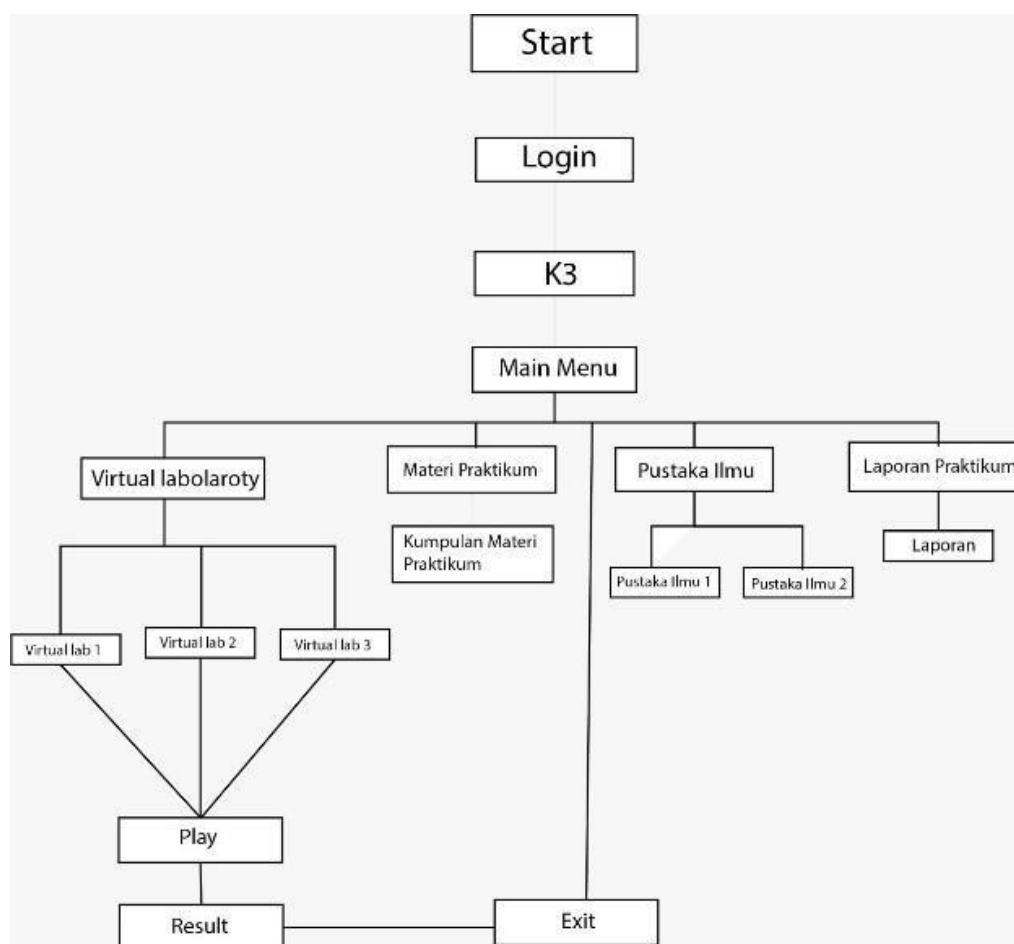


Figure 1. Game Flowchart

Flowcharts function to make it easier to organize games and are the basis for the framework of the game flow that will be created. The flowchart in this game consists of start followed by player login, going to the K3 mini game, main menu, and ending at the game exit section. Virtual laboratory menu concept, in this menu the user will enter a virtual practicum room where the user will play a practicum simulation game. Users can drag and drop all items in the practicum room so that the practicum can run interactively. In this menu there are also evaluations and discussions that display. The concept of the practicum report menu is a menu where students can send their practicum reports to the lecturer via an icon connected to the lecturer's Google Form.

Visual Design

a. Main Menu Design



Figure 2. Main Menu Design

The main menu display design is adjusted to the laboratory and bio character:

b. Laboratory Virtual Design

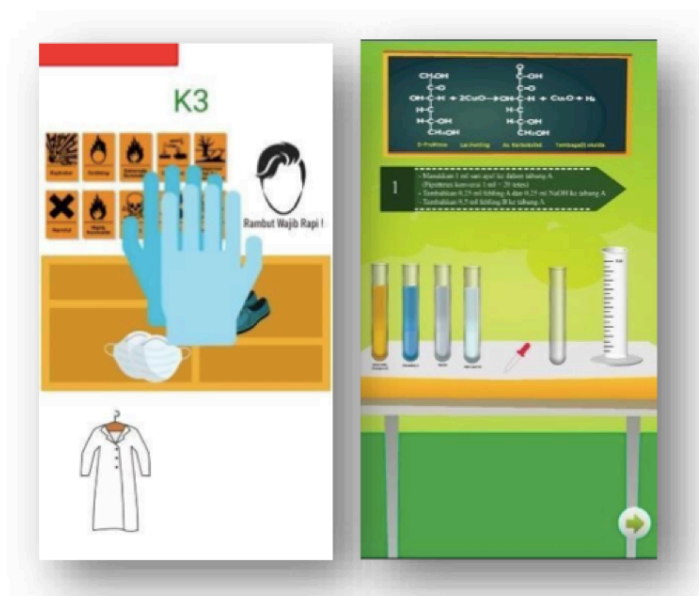


Figure 3. Virtual Lab Design

The design of the virtual laboratory display is designed according to the theme, namely biology practicum, and adapted to the user, namely students.

c. Practical Material Design



Figure 4. Practicum Metrial Design

The practicum material design is displayed in text displays and video icons that are integrated with videos on YouTube.

d. Science Library Design



Figure 5. Science Library Design

The science library design contains unique quotes about facts in biochemistry.

e. Practical Report Design

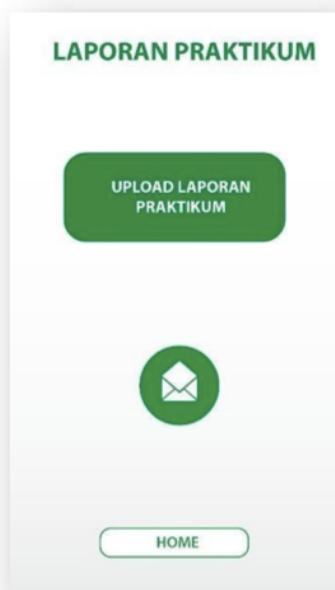


Figure 6. Practical Report Collection Design

The practicum report design contains an icon which, if clicked, will be integrated with the respective lecturer's Google Form.

f. Discussion Design

PEMBAHASAN

SEBELUM

D-fruktosa

H₂O

Cu

SESUDAH

Karboksilat

Cu₂O

SELANJUTNYA >

PEMBAHASAN

$$\begin{array}{c} \text{OH} \\ | \\ \text{H}-\text{C}-\text{H} \\ | \\ \text{C}=\text{O} \\ | \\ \text{OH}-\text{C}-\text{H} \\ | \\ \text{H}-\text{C} \\ | \\ \text{H}-\text{C}-\text{OH} \\ | \\ \text{CH}_2\text{OH} \end{array} + 2\text{CuO} \rightarrow \begin{array}{c} \text{O} \\ || \\ \text{C}-\text{OH} \\ | \\ \text{C}=\text{O} \\ | \\ \text{OH}-\text{C}-\text{H} \\ | \\ \text{H}-\text{C} \\ | \\ \text{H}-\text{C}-\text{OH} \\ | \\ \text{CH}_2\text{OH} \end{array} + \text{Cu}_2\text{O} + \text{H}_2$$

Pada percobaan terjadi reaksi reduksi dan oksidasi. Aldehid dioksidasi membentuk asam karboksilat, sementara ion Cu²⁺ akan tereduksi menjadi Cu⁺. Hasil uji positif apabila dalam suatu sampel terbentuk endapan merah bata (Dhimansenia, dkk., 2017).
 Sampel sari apel semula berwarna kekuningan, ketika ditambahkan reagen fehling A dan B akan berubah menjadi berwarna biru. Setelah tabung campuran sari apel dan reagen fehling dipanaskan kurang lebih 2 menit akan terbentuk endapan berwarna merah bata. Hal ini menunjukkan bahwa sari apel mengandung glukosa yang memiliki gugus aldehid. Gugus aldehid merupakan gugus karbonyl bebas yang berada di ujung sehingga ketika bereaksi dengan reagen fehling terbentuk endapan merah bata (Sudarmo, 2006).
 Reaksi kimia yang terjadi direpresentasikan sebagai berikut:

SELANJUTNYA >

Figure 7. Discussion Design

The discussion design contains 3D modeling of each chemical element used during the practicum. Apart from that, it also displays reading texts and chemical structures to make it easier for students to receive the material. This game has been validated by media experts, namely lecturers in the department of information engineering, Malang State University, getting a result of 90.9%. Meanwhile, the validity of the material has been validated by a lecturer in the biology department at Malang State University, getting a result of 95%, so the data says that this game can be used without revision.

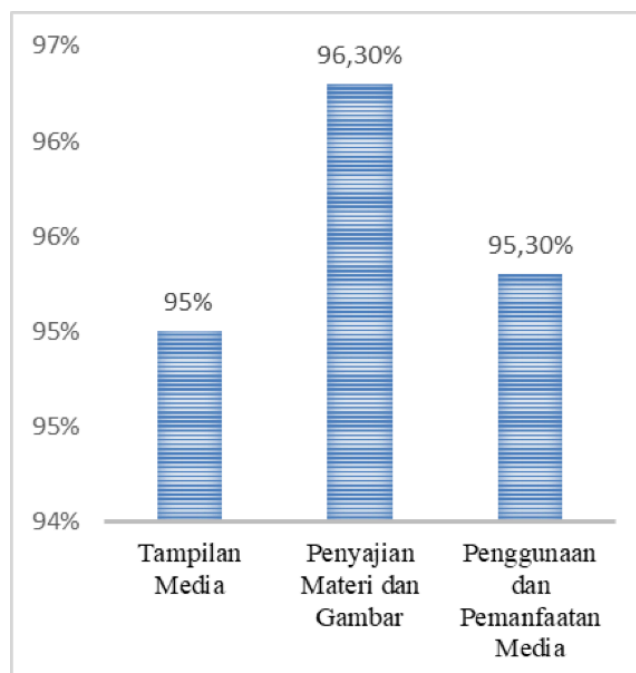


Figure 8. Media Readability Test Results in Small Classes

Based on a media readability test in a small class of 25 students majoring in biology offering A 2018, respondents stated that the appearance of the biochemistry virtual laboratory was good with an average score of 95%. This media readability test includes color components, font type and color, as well as packaging content and appearance. Meanwhile, the presentation of material and images received 96.3%, including suitability and clarity of images, clear and easy to understand material, and ease of language. The use and utilization of media got 95.3%, which includes the use of quizzes and evaluations, ease and explanation of action button functions, ease in operating the media, and ease in providing understanding.

Discussion

This virtual laboratory simulation game product has advantages, including that it can be installed on an Android smartphone of at least version 5.1 and above, has a virtual practicum room that can be used interactively, has practicum materials and instructions to make it easier for users to operate, there are simulations, 3D animations from compound molecules used in practice, there is an evaluation in the form of questions. In line with the statement (Subiantoro, 2010) which states that practicum must have a complete package of observation, analysis of results, discussion and evaluation to strengthen students' understanding.

Apart from that, what is selected in the virtual laboratory simulation game is tailored to the user, namely students, and is designed to be attractive in order to increase the user's interest

in learning. The importance of adapting the design to the user is supported by the statement (Puspitorini et al., 2014) which researched the development of digital comic learning media to increase student learning motivation. The result was that students were more interested in learning media that had a design that suited their psychology compared to text-based learning media. Virtual laboratory simulation games also facilitate students to submit reports to lecturers in the form of draft reports so that lecturers can assess the extent of students' understanding. This is very helpful for practicums in this online era and can be a substitute solution for online practicums in online conditions.

The advantage of the virtual laboratory simulation game is that it functions to support online practicum learning in the new normal era, so that students can still follow the practicum material. This also supports student independence in independent learning. Apart from that, virtual laboratory simulation games can also facilitate students' different learning speeds or types, because they can be done alone and can be repeated many times which will increase students' understanding (Bire, Geradus and Bire, 2014).

As a result or benefit of using virtual laboratory simulation games, it will facilitate students' practical activities (Hmelo-Silver, Duncan and Chinn, 2007). In practical learning, virtual laboratories can represent visualizations/representations of material concepts, this is included in the multiple representation section and prepares students for practical work more readily (Kollöffel and de Jong, 2013). The advantage of this virtual laboratory simulation game is that it is able to display visualization models that cover concepts with representation from the sub-microscopic to the macroscopic level which is expected to support and increase students' understanding through this online practicum activity, especially the food biochemical testing material.

Based on the results of media validation getting 90.9% and material validation getting 95%, it is hoped that this virtual practicum simulation game can be used to facilitate students in replacing practicum during online learning. Proven by the results of a small class test of 25 students majoring in biology, the media display results were 95% valid, the material and image presentation was 96.3% and the use and use of media was 95.3%. It is hoped that the revitalization of learning can be realized for a more equitable learning process.

Conclusion

Based on the research, a close beta version of the virtual laboratory simulation game was produced with a virtual lab menu, materials, science library and practical collection lockers. The media validation test results were 90.9% and the material validation test results were 95%. Meanwhile, in a small class media readability test on 25 biology students, the results of the media display were 95% valid, the presentation of material and images was 96.3% and the use and use of media was 95.3%. It can be concluded that the virtual laboratory biochemistry game is valid for use without revision.

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References

- Abykanova, B., Nugumanova, S., Yelezhanova, S., Kabylkhamit, Z., & Sabirova, Z. (2016). The use of interactive learning technology in institutions of higher learning. *International Journal of Environmental and Science Education*, *11*(18), 12528–12539.
- Agustin, W., & Molandia. (2022). *Motion Graphic: Design for Biology Learning Coordination System to Improve High Order Thinking Skills for Students High School*. *10*(1), 1–10.
- Akbar, A., & Noviani, N. (2019, July). Tantangan dan solusi dalam perkembangan teknologi pendidikan di Indonesia. In *Prosiding Seminar Nasional Program Pascasarjana Universitas Pgri Palembang*.
- Albaar, Z. (2015). Pengaruh Self-Directed Learning Berbasis Teknologi Informasi Terhadap Keterampilan Berpikir Kritis Dan Kemandirian Belajar Siswa Kelas XI IPA Di SMA Negeri 1 Palu. *JSTT*, *4*(3).
- Arjaya, I. B. A. (2013). Model Self Directed Learning Berbasis Lingkungan Dalam Pembelajaran Biologi. In *Proceeding Biology Education Conference: Biology, Science, Enviromental, and Learning* (Vol. 10, No. 1).
- Buckley, B. C. (2000). Interactive multimedia and model-based learning in biology. *International journal of science education*, *22*(9), 895-935.
- Damopolii, I., Paiki, F. F., & Nunaki, J. H. (2022). The Development of Comic Book as Marker of Augmented Reality to Raise Students' Critical Thinking. *TEM Journal*, *11*(1), 348–355. <https://doi.org/10.18421/TEM111-44>
- Fauzi, A., Rosyida, A. M., Rohma, M., & Khoiroh, D. (2021). The difficulty index of biology topics in Indonesian Senior High School: Biology undergraduate students' perspectives. *JPBI (Jurnal Pendidikan Biologi Indonesia)*, *7*(2), 149–158. <https://doi.org/10.22219/jpbi.v7i2.16538>
- Febriani, V. I., Kasim, A., & Kundera, I. N. (2022). *Development of Weblog as Learning Resource of Coordination System for Student in Senior High School*. *6*(December), 109–115. <https://doi.org/10.22487/j25490192.2022.v6.i2.pp.109-115>
- Hadiyanto, H., Failasofah, F., Armiwati, A., Abrar, M., & Thabran, Y. (2021). Students' Practices of 21st Century Skills between Conventional learning and Blended Learning. *Journal of University Teaching & Learning Practice*, *18*(3), 07. <https://doi.org/10.53761/1.18.3.7>
- Hidayati, N., Idris, T., & Handayani, P. H. (2022). Biosfer : Jurnal Pendidikan Biologi. *Biosfer: Jurnal Pendidikan Biologi*, *10*(2), 57–65.

- Karatas, K., & Zeybek, G. (2020). The Role of the Academic Field in the Relationship between Self-Directed Learning and 21st Century Skills. *Bulletin of Education and Research*, 42(2), 33-52.
- Lan, Y.-J., Botha, A., Shang, J., & Jong, M. S.-Y. (2018). Guest Editorial. *Journal of Educational Technology & Society*, 21(3), 86–89.
- Lazarinis, F., Mazaraki, A., Verykios, V. S., & Panagiotakopoulos, C. (2015). E-comics in teaching: Evaluating and using comic strip creator tools for educational purposes. *10th International Conference on Computer Science and Education, ICCSE 2015, Iccse*, 305–309.
<https://doi.org/10.1109/ICCSE.2015.7250261>
- Lee, W. W., & Owens, D. L. (2004). *Multimedia-based instructional design: computer-based training, web-based training, distance broadcast training, performance-based solutions*. John Wiley & Sons.
- Leonora, J. I., Ratnapuri, A., & Adinugraha, F. (2021). E-module Characteristics of the Sensory System and Students' Perception of E-modules in Grade XI SMA Trisakti Medan. *Indonesian Journal of Biology Education*, 4(2), 19–24.
- Lieu, R. M., Gutierrez, A., & Shaffer, J. F. (2018). Student Perceived Difficulties in Learning Organ Systems in an Undergraduate Human Anatomy Course. *HAPS Educator*, 22(1), 84–92. <https://doi.org/10.21692/haps.2018.011>
- Mamolo, L. A. (2019). Development of digital interactive math comics (DIMaC) for senior high school students in general mathematics. *Cogent Education*, 6(1).
<https://doi.org/10.1080/2331186X.2019.1689639>
- Mufaqih, S., & Juanengsih, N. (2023). Development of digital comic as a media for biology learning in class Xi High School on cell material. *AIP Conference Proceedings*, 2595(1).
- Ningrum, R. K., & Widjana, D. P. (2019). Improving student learning achievement in the block of nervous system and special senses through application of blended learning strategy. *Journal of Physics: Conference Series*, 1402(7), 5–8.
<https://doi.org/10.1088/1742-6596/1402/7/077056>
- Nunaki, J. H., Patiung, Y., Kandowangko, N. Y., Nusantari, E., & Damopolii, I. (2019). The Validity and Students Response toward Coordination System Teaching Material Oriented Guided Inquiry. *Formatif: Jurnal Ilmiah Pendidikan MIPA*, 9(1), 59–70. <https://doi.org/10.30998/formatif.v9i1.2884>
- Nurdyansyah, N., & Fahyuni, E. F. (2016). Inovasi model pembelajaran sesuai kurikulum 2013.
- Nurpalah, A., Pasha, M. S., Rhamdhan, D. D., Maulana, H., & Rafdhi, A. A. (2021). Effect of UI/UX Designer on Front End. *International Journal of Research and Applied Technology*, 1(2), 335–341.
<https://doi.org/10.34010/injuratech.v1i2.6759>

- Pratama, R., Indriyanti, D. R., & Mindyarto, B. N. (2021). Development of a Diagnostic Test for Student Misconception Detection of Coordination System Material Using Four-Tier Multiple Choice. *Jise*, *10*(3), 251–228.
- Rais, M., & Aryani, F. (2023). Proceedings of the Unima International Conference on Social Sciences and Humanities (UNICSSH 2022). In *Proceedings of the Unima International Conference on Social Sciences and Humanities (UNICSSH 2022)* (Vol. 1). Atlantis Press SARL. <https://doi.org/10.2991/978-2-494069-35-0>
- Rambung, O. S., Sion, S., Bungamawelona, B., Puang, Y. B., & Salenda, S. (2023). Transformasi Kebijakan Pendidikan Melalui Implementasi Kurikulum Merdeka Belajar. *JIP: Jurnal Ilmu Pendidikan*, *1*(3), 598-612.
- Riwanto, M. A., & Wulandari, M. P. (2019). Efektivitas Penggunaan Media Komik Digital (Cartoon Story Maker) dalam pembelajaran Tema Selalu Berhemat Energ. *JURNAL PANCAR (Pendidik Anak Cerdas dan Pintar)*, *2*(1).
- Rodriguez, V. (2013). The Human Nervous System: A Framework for Teaching and the Teaching Brain. *Mind, Brain, and Education*, *7*(1), 2–12. <https://doi.org/10.1111/mbe.12000>
- Siregar, R., & Harahap, H. S. (2022). The Use of Biology-Based Learning Module Android and Their Effect on Learning Outcomes on Coordination System Materials in Class XI IPA in Mas Islamiah Kotapinang. *Budapest International Research and Critics Institute (BIRCI-Journal) : Humanities*, *5*(2), 16870–16880.
- Smith, J. (2020). The Impact of Technology on Education. *Journal of Educational Advancements*, *15*(2), 45-58.
- Susanto, L. H., Rostikawati, R. T., Novira, R., Sa'diyah, R., Istikomah, I., & Ichsan, I. Z. (2022). Development of Biology Learning Media Based on Android to Improve Students Understanding. *Jurnal Penelitian Pendidikan IPA*, *8*(2), 541–547. <https://doi.org/10.29303/jppipa.v8i2.1334>
- Tan, L., & Koh, J. (2014). Self-directed learning: Learning in the 21st century education. *Educational Technology Division, Ministry of Education*.
- Taufiq, M., Wijayanti, A., & Fajriah, E. (2020). The implementation of e-comic earth layer to enhance students' self-directed learning. *Journal of Physics: Conference Series*, *1567*(2). <https://doi.org/10.1088/1742-6596/1567/2/022070>
- Yustriani, A., & Zulfiani. (2023). *Development of Android Based Educational Games as Learning Media on the Concept of Coordination System for Grade XI High School Students*. *11*(3), 608–624.

***Perinatal Malpractice Litigation and Midwives' Responses:
Risk Management and Legal Analysis***

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Abstract

Childbirth presents a variety of risks, such as sequelae or death of mother and child. Child birth associated risk increases when medical complications. Quality care by healthcare professionals is necessary to minimize these risks. Diagnosis errors, delays, and poor communication are considered childbirth malpractice; patients usually take legal action in these cases. Studies analyzing court cases over the past two decades have shown that inadequate labor progress recording and insufficient preservation methods lower the value of the evidence. Moreover, it is important not to overlook potential turning points where adverse events can be avoided. This study explored medical errors and their prevention, focusing on midwives. The study collected and analyzed cases of malpractice from 2019 to 2023 using the Pm SHELL model. In a legal database (TKC Law Library) search for “medical case law” and “midwives” from April to September 2023 found 19 cases, three cases in which the midwife’s actions and circumstances were described were identified and selected. A “delay in reporting from the midwife to the doctor” was considered as a common factor in all three cases. In Case-1, the report was made; however, important information was missing. In Case-2, incorrect decisions were made due to inappropriate cardiotocogram (CTG) placement. In Case-3, the problem occurred at the time of reporting, wherein one of the two midwives interrupted the report to the doctor and said that “the care for the patient is finished, so no further advice is needed. Following which, the doctor did not check the patient. In Case-1, education and training is needed to improve the midwife’s judgment and their understanding of protocols as following them can reduce judgment errors. In Case-2, real-time monitoring with CTG by multiple healthcare providers is required to ensure a rapid response system. In Case-3, midwife– obstetrician communication and collaboration should be standardized.

Keywords: Cerebral Palsy, Gynecology, Midwives, Obstetrics, Uterine Rupture

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Introduction

Premature separation of the normally implanted placenta, uterine rupture, and cerebral palsy are risks associated with childbirth. These conditions sometimes lead to serious sequelae and even death of the mother and fetus or newborn (Japan Society of Obstetrics and Gynecology/Japan Association of Obstetricians and Gynecologists, 2023). Medical malpractice during childbirth can further increase these risks (Japan Council for Quality Health Care, 2023). Well-functioning healthcare teams are needed to provide quality care to minimize these risks (Vincent, 2015). It is also particularly important that doctors and midwives work together during childbirth to protect the health and safety of the mother and child.

The midwife monitors the progress of delivery and reports any abnormalities to the doctor for appropriate treatment. Previous research of medical malpractice suggests that adverse outcomes can be avoided if timely and appropriate action is taken (Jonsson, 2007). Patients often take legal action when medical malpractice occurs (Disposition of Medical Litigation Cases and Average Length of Trial, 2022). In relation to medical litigation cases (in district courts) in Japan by medical specialty, there were 51 cases in obstetrics and gynecology in 2021 (Number of Medical Litigation Cases (District Court) by Medical Specialty, 2022).

Misdiagnosis, a delay in appropriate treatment, and poor communication has been identified as causes of medical malpractice during childbirth (Learning from Court Cases, 2022). One study analyzing court cases over the past 20 years with a focus on midwives found that it is important to prevent recurrence by applying measures to avoid missing turning points where adverse events can be avoided (Yamazaki, 2023). This study also found that inadequate data recording and preservation methods cast doubt on the value of the evidence (Yamazaki, 2022).

It is important to continue medical safety education for midwives, and in doing so, it is necessary to pay attention to recent trends. Identifying trends can also be used as a reference when considering specific improvements and measures.

The aim of this study was to examine the factors that led to the occurrence of medical errors and preventive measures, focusing on cases involving midwives from recent medical malpractice lawsuits during childbirth.

Methods

This study used the Japanese legal database, TKC Law Library, to collect and analyze perinatal medical malpractice court cases from 2019 to 2023.

A search using the keywords “medical precedents” AND “midwives” for the period April-September 2023 found 19 court cases. Of these, three cases describing the midwives’ actions and circumstances in chronological detail were selected for study. The other 16 cases were removed because of insufficient information regarding their involvement with midwives. The P-mSHELL model was used for analysis.

The P-mSHELL model is an analytical framework for understanding factors in medical accidents. It is an extension of the SHELL model, which is widely used in aviation to analyze human factors issues, and includes P: Patient, m: Management, S: Software, H: Hardware, E:

Environment, and L: Liveware (individual/team). The model helps predict risks in healthcare settings by considering several factors. It has been used in various studies to analyze safety weaknesses in clinical practice and to develop preventive measures (Kato, 2018).

Results

A P-mSHELL model analysis was conducted for the three cases under study, focusing on the negligence of the midwife and identifying the case outline, the issues, and the court's decision on the issues.

1. Case 1 (2023 District Court Decision)

1) Case Outline

This is a case of a first-time mother with painless delivery after labor induction.

The doctor judged that she was in a state of fetal distress, with weak labor, and inadequate abdominal pressure, and performed vacuum delivery. The infant's Apgar score was 9 at 1 min and 9 at 5 min and was normal.

0:20 am: The midwife observing the neonate telephoned the doctor to report that the SpO₂, respiratory rate, and heart rate were normal. The child's breathing effort was increased and listless, but she did not report facial cyanosis, poor general color, or abnormal breathing.

2:10 am: The neonate had marked pallor, weak breathing, and the SpO₂ decreased to 80–70 %. There was bradycardia and no muscle tone; therefore, the midwife started bag-valve-mask ventilation with supplemental oxygen and reported the situation to the doctor by telephone. The neonate was transferred to another hospital and treated for a subgaleal hematoma diagnosis; however, the infant died without benefiting from the treatment.

2) Issue

Was the midwife obliged to report the facial cyanosis, poor general color, and abnormal breathing to the doctor at 0:25 am?

3) The Court's Decision

The midwife should have reported the facial cyanosis, poor general coloration, and abnormal breathing to the doctor at around 0:25 a.m.; thus, there is a causal link between this situation and the newborn's death.

Case 1	P-mSHELL	Factors
2:10 am: The midwife observing the neonate telephoned the doctor to report that the SpO ₂ , respiratory rate and heart rate were normal and that The child's breathing effort was increased and	P:Patient	The baby was born by vacuum delivery because of a tendency to fetal distress during painless delivery. A subgaleal hematoma was discovered on arrival at the hospital.
	M:Management	Clinic In the absence of a doctor, the system required a report by telephone.

listless, but she did not report facial cyanosis, poor general color, and abnormal breathing.	S:Software	The midwife was recording the vital signs of the newborn, but the doctor was not present to assess them.
	H:Hardware	On the doctor's orders, the newborn was placed in an incubator, but his temperature remained low and was not adequately controlled.
	E:Environment	In the absence of a doctor, a midwife was present.
	L:Liveware [individual]	The midwife observed the newborn. the infant had a vacuum delivery, and a subgaleal hematoma was anticipated. The midwife reported SpO ₂ , etc. to the doctor by telephone. The midwife did not report information to the doctor although the patient had facial cyanosis, poor general color, and abnormal breathing, which had previously worsened.
	L:Liveware [team]	The doctor received a report from the midwife on the SpO ₂ and other data, judged that there was transient tachypnea and instructed the midwife to continue monitoring the SpO ₂ , accommodate the infant in an incubator for monitoring, and to administer oxygen if necessary. The neonate was not examined until a telephone call at 2:10 a.m.

2. Case 2 (2021 District Court Decision)

1) Case Outline

This is the case of a woman who attempted delivery by trial of labor after cesarean delivery.

1.50 am to 2.10 am: the fetal heart rate tracing showed signs of fetal distress, but the midwife did not recognize it as abnormal and did not report it to the doctor.

3:00 am: the midwife contacted the doctor as the baby became irritable.

3.15 am: the doctor arrived to the delivery room.

4:00 am: the decision was made to perform an emergency cesarean section because the fetal heart rate had decreased. It was decided that the cesarean section could not wait, therefore, vacuum delivery was performed with fetal compression.

The neonate was pallid, not moving or breathing, and had no response to stimuli.

The physician performed endotracheal intubation and other resuscitation procedures on the neonate and subsequently transferred him to another hospital.

The neonate developed sequelae due to hypoxic encephalopathy and died two years later.

2) Issue

Did the midwife breach her duty of care by requesting the presence of a doctor?

3) The Court's Decision on the Issue

The fetal heart rate tracing from 1.50 am to 2.10 a.m. is a level 4 equivalent to fetal distress, but the midwife did not consider the fetal heart rate tracing on the cardiotocograph (CTG) to be abnormal and did not report it to the doctor or request a witness, thus breaching her duty of care.

Case 2	P-mSHELL	Factors
1:50 am to 2:10 am: The fetal heart rate tracing showed signs of fetal distress, but the midwife did not recognize it as abnormal and did not report it to the doctor.	P:Patient	Fetal heart rate tracings showed signs of fetal distress. The baby was born in a state of severe neonatal distress.
	m:Management	CTG was applied intermittently. The nighttime delivery was handled by the doctor on call who was informed by the midwife observing the pregnant woman 's progress that "the delivery was about to occur" or that there was an abnormality.
	S:Software	The midwife prepared a partogram (birth progress chart) and a progress chart.
	H:Hardware	The recording during the CTG was not good in some places and was broken. Some parts were illegible.
	E:Environment	The midwife and several other staff members worked without a physician. There was no record of any consultation with other staff regarding deciphering the CTG or the need to reattach it.

	L:Liveware [individual]	The midwife was not aware that the fetal heart rate on the CTG from 1:50 a.m. was abnormal and did not report it to the physician until delivery was imminent. The CTG recording was interrupted, but the delivery monitor was not reattached.
	L:Liveware [team]	The obstetrician on duty and on call at home was informed by the midwife that the mother was about to deliver. At 3:15 a.m., the obstetrician arrived to the delivery room and the mother was treated.

3. Case 3 (2021 District Court Decision)

1) Case Outline

This case is of a primiparous mother suffering from paroxysmal nocturnal hemoglobinuria.

The mother was treated with eculizumab for 3 weeks postpartum at a hematology clinic.

Eculizumab is a drug with a package insert that states that it can induce meningococcal infection as a side effect.

4:55 p.m.: The mother called the hospital and told them that she had sudden chills and a fever of 39.5°C; by the time she returned home, her breast tension was strong and she had induration. She breastfed quickly after returning home and the induration disappeared. She now had no breast pain or heat and no cold symptoms. Midwife A, who responded to the call, felt that she could not decide on her own, so she consulted with her senior midwife, Midwife B, who instructed her to contact an obstetrician.

While Midwife A was reporting to the obstetrician, Midwife B began to respond to the mother's call. Midwife A saw this and interrupted her report to the obstetrician, telling him that she had already taken care of the mother.

Midwife B instructed the mother to feed the baby well because it was thought to be mastitis and to call if the fever had not broken by tomorrow morning and breast problems were still appearing.

9:18 p.m.: The mother's family called the hospital and informed them that the fever had slightly decreased, but she still had chills and significant sweating and that she was dehydrated because she could not get up and could not drink water; her hands were numb and she could not breastfeed because she was in pain.

The obstetrician ordered an emergency room visit.

9:55 p.m.: The mother went to the emergency room and was provided the necessary treatment. However, the treatment was ineffective, and she died of shock the next day.

2) Issue

Did midwife B breach her duty to instruct the mother to seek medical attention?

3) The Court's Decision on the Issue

Midwife B had a duty of care to inform the doctor of the mother's symptoms and to act based on the doctor's instructions. However, midwife B judged on her own that there was a high possibility of mastitis and instructed the mother to wait until the next day to see how she was doing, without seeking the doctor's instructions. This act constituted a negligent breach of duty of care because it deviated from the scope of work (health guidance) that the midwife should have performed.

Case 3	P-mSHELL	Factors
<p>4:55 p.m.: The mother called the hospital. Midwife A, who responded to the call, felt that she could not decide on her own, so she consulted with her senior midwife, Midwife B, who instructed her to contact an obstetrician. While Midwife A was reporting to the obstetrician, Midwife B began to respond to the mother's call. Midwife A saw this and interrupted her report to the obstetrician, telling him that she had already taken care of the mother.</p>	P:Patient	<p>The mother suffers from paroxysmal nocturnal hemoglobinuria. She was administered eculizumab (which can induce meningococcal infection). When she called the hospital, she told them that she had received eculizumab, but did not tell them about the contents of the "insert" regarding side effects.</p>
	m:Management	<p>When the midwife received the call from the patient, she consulted with the other midwives, who then consulted with the physician to discuss the patient's visit to the emergency room.</p>
	S:Software	<p>The patients were instructed to have a "patient card" for adverse reactions to eculizumab and to present it whenever they had symptoms such as fever.</p>
	H:Hardware	
	E:Environment	<p>As a primiparous mother with complications, hematology and obstetrics were working together for treatment.</p>
	L:Liveware [individual]	<p>Midwife A explained to the doctor the name of the patient's disease, the number of days postpartum, and her name, and that she had been given eculizumab intravenously during the day, that she had</p>

		<p>chills and fever after returning home, and that her breasts were not tender.</p> <p>While Midwife A was reporting to the obstetrician, Midwife B began to respond to the mother's call.</p> <p>Midwife A saw this and interrupted her report to the obstetrician, telling him that she had already taken care of the mother. Midwife B instructed the mother to feed the baby well because it was thought to be mastitis and to call if the fever had not broken by the next morning and breast problems were still appearing.</p>
	L:Liveware [team]	<p>The obstetrician failed to obtain information on the details of the mother's symptoms (e.g., the course and extent of chills and fever, the absence of cold symptoms, etc.) because Midwife A interrupted the call. As a result, no further action was taken.</p>

Conclusion and Discussion

In all three cases, "a delay in reporting to the doctor due to a midwife's error in diagnosis" was considered a factor, but the process leading up to this point was different. It appears that there was a safety issue here.

Case 1: An incomplete report from the midwife to the physician

Problem: The midwife omitted critical information in her report to the physician

The case analysis revealed that the midwife lacked the ability to identify important information and communicate it appropriately. Midwives may lack education regarding the importance of symptoms and the need to report them. Continuing education has been shown in many studies to be effective in improving these skills (Schmiedhofer, 2020).

From an organizational perspective, clinics that do not have physicians on staff would benefit from setting up guideline-based protocols within the facility to reduce errors in individual decisions. It is also important to take advantage of the latest communication technology, such as electronic medical record systems, to automate the reporting process and reduce the risk of omitting important information (Eden et al., 2008). It is also useful to establish regular conferences and meetings within the medical institution to promote communication among multiple professions. This can raise awareness of the importance of information sharing between midwives and physicians (Schmiedhofer et al., 2021).

Case 2: improper fitting of CTG

Problem: Wrong reading due to incorrect CTG placement

- Proper mounting and deciphering of CTGs are essential for accurate diagnosis.
- This case suggests technical expertise and hardware issues.

Deficiencies in the CTG placement process can lead to erroneous data and decisions. From an educational perspective, it is important that specialized training programs on CTG placement and interpretation be developed and provided to healthcare professionals regularly. This will improve skills in the accurate use and interpretation of CTG (Pehrson et al., 2011; Eggermont, 2015).

In addition, real-time monitoring data can be evaluated by multiple healthcare professionals to reduce the risk of misinterpretation (Charles, 2010).

Case 3: Lack of communication between midwives and obstetricians

Problem: The midwife's report to the obstetrician was interrupted and important information was not shared

This case highlights the lack of communication within the medical team. A breakdown in communication can directly impact patient safety. Effective communication within the healthcare team is critical for improving patient outcomes. This can prevent errors and oversights in judgment. Regular team building and communication skills training are common strategies for preventing these problems. Several studies have confirmed their efficacy (Høgh et al., 2021).

The important lessons from these cases include the need for continuing education and training, the importance of communication in the medical setting, and the importance of establishing appropriate hardware and protocols. These elements are critical for improving patient safety and quality of care. This study reveals the importance of identifying problems in medical practice and providing specific remedies, as evidenced by recent medical malpractice lawsuits in childbirth.

References

- Charles, V. (2010). *Patient safety* (pp. 341–367). NJ: Wiley-Blackwell Publishing, Inc.
- Disposition of Medical Litigation Cases and Average Length of Trial. (2022). Supreme Court. <https://www.courts.go.jp/saikosai/vc-files/saikosai/2022/220701-iji-toukei1-heikinshinrikikan.pdf>. Retrieved August 1, 2023.
- Eden, K. B., Messina, R., Li, H., Osterweil, P., Henderson, C. R., & Guise, J. M. (2008). Examining the value of electronic health records on labor and delivery. *American Journal of Obstetrics and Gynecology*, 199, 307.e1–307.e3079. doi:10.1016/j.ajog.2008.07.004
- Eggermont, M. (2015). Safety of birth: A comparative analysis of the legal guarantees in maternity care (Belgium—France—The Netherlands). *European Journal of Health Law*, 22, 113–140. doi:10.1163/15718093-12341355
- Høgh, S., Thellesen, L., Bergholt, T., Rom, A. L., Johansen, M., & Sorensen, J. L. (2021). How often will midwives and obstetricians experience obstetric emergencies or high-risk deliveries: A national cross-sectional study. *BMJ Open*, 11, e050790. doi:10.1136/bmjopen-2021-050790
- Japan Council for Quality Health Care. (2023). Obstetric Care Liability Insurance System. Retrieved August 1, 2023, from http://www.sanka-hp.jcqhc.or.jp/documents/prevention/report/pdf/Saihatsu_Report_13_All.pdf
- Japan Society of Obstetrics and Gynecology/Japan Association of Obstetricians and Gynecologists. (2023). Guidelines for Obstetrics and Gynecology 2023. Japan Society of Obstetrics and Gynecology.
- Jonsson, M., Nordén, S. L., & Hanson, U. (2007). Analysis of malpractice claims with a focus on oxytocin use in labour. *Acta Obstetrica et Gynecologica Scandinavica*, 86, 315–319. doi:10.1080/00016340601181318
- Kato, A. (2018). A case study on the medical accident of Nurse's human error. *International Journal of Human Culture Studies*, 2018, 595–609. doi:10.9748/hcs.2018.595
- Learning from Court Cases. (2022). Japan Association of Obstetricians and Gynecologists. Retrieved August 1, 2023, from <https://www.jaog.or.jp/notes/note15351/>
- Number of Medical Litigation Cases (District Court) by Medical Specialty. (2022). Supreme Court. Retrieved August 1, 2023, from <https://www.courts.go.jp/saikosai/vc-files/saikosai/2022/220701-iji-toukei4-shinryouk-amokubetsukisai.pdf>

- Pehrson, C., Sorensen, J. L., & Amer-Wählin, I. (2011). Evaluation and impact of cardiotocography training programmes: A systematic review. *BJOG*, *118*, 926–935. doi:10.1111/j.1471-0528.2011.03021.x
- Schmiedhofer, M., Derksen, C., Keller, F. M., Dietl, J. E., Häussler, F., Strametz, R., Koester-Steinebach, I., & Lippke, S. (2021). Barriers and facilitators of safe communication in obstetrics: Results from qualitative interviews with physicians, midwives and nurses. *International Journal of Environmental Research and Public Health*, *18*, 915. doi:10.3390/ijerph18030915
- Vincent, C. (2015). *Patient safety* (2nd ed.). BMJ Publishing.
- Yamazaki, Y. (2022). Why was the midwife's argument unacceptable? Review of issues to prevent recurrence of medical malpractice. *Journal of Japan Academy of Midwifery*, *36*, 137–146. doi:10.3418/jjam.JJAM-2022-0001
- Yamazaki, Y. (2023). A necessary challenge to avoid missing the turning point to avoid medical malpractice. *The Asian Conference on the Social Sciences 2023 Official Conference Proceedings*. 2023, 347–354. doi:10.22492/issn.2186-2303.2023.28

Critical Facility Experiences and the Lesson Learnt From 2011 Flood Disaster in Ayutthaya Province, Thailand

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Abstract

In disaster management, critical facility plays a vital role in providing services and functions essential to community for minimizing damages and losses from disaster. Critical facilities include government offices, schools, hospital and place of worship. These facilities should be given special consideration when formulating disaster management plan. This research aims to determine critical facility damages and recovery from 2011 flood experiences in Bang Pa-in district, Ayutthaya, and identify the gaps for facilities in developing potential supports to flood prone communities. Narrative analysis was applied to semi-structured interviews conducted with key personnel from 34 critical facilities. The flood caused damages to public facility, assets, and impact on environmental health and food security. Recovery and reconstruction ranged from one week to six months. Facilities indicated that teamwork, cooperation and support from stakeholders led to prompt recovery. However, recovery was delayed due to budget, equipment and personnel limitations. Most facilities respond effectively and communicate with staff during flood. Nevertheless, many facilities should apply measures and communicate instruction to victims more beneficially. Moreover, flood-related data were not available for most of the facilities. Therefore, they need more accurate information on water level, weather forecast, warnings, shelter locations and key assisting persons. This research highlights the demand from facilities which concern immediate response, authoritative data, and effective communication and monitoring system. Strategies to improve the capability of critical facilities were discussed. Findings underscore flood experiences, responses, and reflections from critical facility that contribute to developing effective guideline for disaster management plan in flood prone community.

Keywords: Critical Facility, Disaster Management Plan, Flood Experiences, Narrative Analysis

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Introduction

In 2011, Thailand experienced the worst flood in over half a century. The excessive heavy rain and tropical storms led to severe flooding. The water made its way from the north downstream to the central plain in Chao Phraya River basin. The total damage and loss from the flood amounted THB 1.43 trillion (approximately USD 46.5 billion) affected 12.8 million people caused 728 deaths (World Bank, 2012). The flood caused tremendous damage and loss of lives and properties across 66 provinces in Thailand. One of that was Ayutthaya province in the central part of Thailand where many of industrial parks were based. The flood were two to three meters high for over extended period, from three weeks to three months. Consequently, the industrial areas were flooded and the business were interrupted. Not only business operations were affected, but also livelihoods have disrupted in both urban and rural areas. Poor and marginalized households were affected. Wages have been lost due to the flood and large proportion occurred within vulnerable population (GWP, 2017).

In flood disaster management, Critical Facility (CF) plays a vital role in providing functions and supports essential to community. The key elements for resilience of CF should not be limited to the location and structural factor. It is necessary to also address CF in relation to organizational coping strategy, data management and communication in all time period, before, during and after the disaster.

Most of the previous literatures on CF provided the structure design guidance, training manual, and toolkits for disaster management (for instance, Bach *et al.*, 2013; ADPC, 2015). Some studies have evaluated resilience status of critical infrastructure in South Asia (Mukherjee *et al.*, 2023) and some investigated public expectations of critical infrastructure in time of crisis (Petersen *et al.*, 2018). One study also reviewed on the relationship between critical infrastructure and climate change (Huddleston *et al.*, 2022). They were explored to understand the need to adapt critical infrastructure to climate change so that communities are not left without fundamental supplies and services. Previous research also analyzed the integration of critical infrastructure components to the flood risk management concepts (Fekete, 2019). The impact of disaster on critical facility have been explored in several studies, including an investigation of natural hazard impacts of CF (Krausmann *et al.*, 2019) and particular research on flood disaster impact (Oh *et al.*, 2010; Yusoff *et al.*, 2017; Gangwal *et al.*, 2022).

However, there have not been many studies that investigate experience of CF in flood disaster. It is important that the national and local authorities understand CF preparation and response experiences in the past and identify potential flood coping strategy and challenges in order to strengthen the CF roles to minimize damage and protect the community in disaster events more effectively. As such, this research aims to determine CF damage and recovery period from the 2011 flood in Ayutthaya and identify the gaps from CF experiences.

This study explored the 2011 flood experience from the CF interviews. The damage were determined and recovery period were revealed. Then the flood preparation and response for the facility and staff were examined. The descriptions of measure to support the victims were followed. Finally, the study identified the information accessibility and key considerations from coping experience. Finally, the strategy for developing a more effective coping strategy and resilient recovery were discussed.

Study Area and Methodology

The area of study covered two kilometers catchment areas of Bang Pa-in industrial estate which is located in Bang Pa-in district, Ayutthaya province. Totally ten sub-districts are incorporated in this study, including Klong Chik, Ban Len, Ban Phlap, Ko Koet, Bang Krasan, Chiang Rak Noi, Wat Yom, Ban Pho, Ban Wa, and Ban Pang sub-districts.

Semi-structured interviews were employed to one key personnel from each of the 34 CF in the area. Narrative analysis were applied to identify damage, coping strategies and disaster management gaps. The study was conducted from February to March 2021. Due to COVID-19 pandemic at that time, most CF interviews were done by mail, phone and Line application, whereas personal interviews were done by few CF. The interviews composed of questions relating to flood damage, recovery period, coping strategies in 2011 flood, supporting strategies to victims, CF information access and suggestions to develop effective disaster management plan.

Thirty-four CF interviewed in this study were the government offices, schools, hospitals and place of worship, shown in Table 1. Only three CF are established as formal community evacuation centers. Others were assigned to provide assistances and support the victims in case of disaster.

Table 1: Critical facility included in this study

Critical facility type	Number of facility
Government office	11
Temple	9
School	9
Hospital	3
Mosque	1
Police station	1
Total	34

The key personnel from 34 CF consists of 63% male and 37% female with the average of 21.6 working years at the CF. Damage, recovery period, coping strategies, information access and key suggestions were revealed from the interview.

Damage and Recovery

The damage from 2011 flood in Ayutthaya were classified into four aspects, including assets, public facility, environmental health, food and water. The flood damage and its components are detailed in Table 2.

Table 2: Flood damage

Damages from 2011 flood	
Assets	Natural assets Farmlands, trees, crops
	Physical assets Houses, building, wooden floors, walls, fence, gate, garage, electronic home appliance, school supplies, books, hard document
Public facility	Highway, roads, drainage system, public areas, medical equipment, drug delivery
Food and water	Food and water supply
Environmental health	Waste, hygiene and sanitation, unpleasant odor

The recovery and reconstruction revealed the period of time that individuals or organization were able to restore to pre-flood condition and resume their normal activities. The flood recovery period was reported in two levels, individual victim recovery period and organizational recovery period, respectively. Out of the total 34 CF, 16 CF (47%) indicated 100% individual recovery period with a range of two weeks up to six months. Many CF were not assigned to be shelters during the flood so the recovery data were not available. In several organization, the plans to monitor the victim resettlement period do not exist. For organization themselves, 32 CF (94%) reported 100% recovered with one week up to six months.

It was noted that the period of recovery varied across CF. On the one hand, the prompt recovery was driven by strong teamwork, cooperation among agency and support from both organization and employees. On the other hand, long resettlement period was due to budget, equipment and personnel limitations.

Coping Strategy in 2011 Flood

In coping strategy as a holistic approach, this study explored two dimensions, flood response and provision of advice to staff. For flood response and decision making, most CF reported their responses in pre-flood, during the flood and post flood period, 76%, 88%, and 74% of CF respectively. Responses are summarized for each period, shown in Table 3.

Table 3: Flood preparedness and response in each stage

Pre-flood	During flood	Post-flood
<ul style="list-style-type: none"> • Preparation for the flood • Keep update the information on flood situation • Coordination with organization and assign duties to officers 	<ul style="list-style-type: none"> • Establish a control center for assistance, staff teams, and assisting equipment • Provide health services, food and vehicles • Closely monitor water level • Move necessary belongings to the higher places 	<ul style="list-style-type: none"> • Cleanup the area • Survey, assess the damage and report government agency • Develop emergency action plans

In pre-flood period, CF prepared venue and supplies including storage location for belongings, shelters, restrooms, food and sandbags. In addition, they kept up-to-date with weather news and information from the local government in order to announce the flood situation through various media. Also, they coordinated with stakeholders and assigned duties to officers to provide support in case of emergency.

During flood disaster, the organizations were functioned as control center to support flood victims, prepare necessary supplies, such as water pump and sandbag barriers. They also coordinated with agencies to prepare food and drinking water, organize staff to be ready for help, to monitor flood situation and water level closely and continuously, to provide assistance in healthcare services, vehicles and food. Moreover, they assisted in moving belongings and supplies to safe places.

After the flood, CF cleaned the area before restoration to normal condition. They conducted the survey to identify damage in the area and repaired them, assessed the damage and report the local government. Also, they healed victims' mental health and implemented health check-up services to diagnose emerging symptoms or diseases after the flood. Finally, they propose action plan in flood prevention to cope with disaster in the future.

In the dimension of advice provision to CF staff during the flood, approximately 68% of CF reported their guidance to staff. CF offered guidance to staff in various aspects including advice in supporting others and guidance for their own safety. CF staffs were guided to monitor water level, report situation to local government and visit the flooded area. In addition, advice was given on survival bags preparation, move of belongings to higher places, and steps to proceed to evacuation center. Staffs were also emphasized to take good self-care and be cautious when applying equipment during the flood, e.g. water pump.

Supporting Flood Victims

In supporting the flood victims, two main strategies consist of overall supporting procedures and specific instructions to victims. For overall supports, less than one-fourth of CF had measures to support the victims in the pre-flood, during the flood and post-flood period, 24%, 24% and 4%, respectively. The key measures are provision of medical services, food and supplies in all stages, and other supports as listed in Table 4.

Table 4: Supporting measures and strategy

Pre-flood	During flood	Post-flood
<ul style="list-style-type: none"> Identify vulnerable groups and coordinate with agency Clean up the area Prepare food, equipment and medical services Assign key personnel for emergency services 	<ul style="list-style-type: none"> Provide shelters and medical services Prepare food Assist the most vulnerable group as the first priority 	<ul style="list-style-type: none"> Provide medical services Assess the damage in affected household

In providing specific instruction to victims, one-third of CF stated their provisions in pre-flood and during the flood, 35% and 38%, respectively. The process in providing instruction to victims are detailed in Table 5.

Table 5: Instructions for communication with the victims

Pre-flood	During flood
<ul style="list-style-type: none"> Inform community and warn people in advance to be prepared, not to be panic Inform village headman in advance to provide this place as a shelter Notify the community when the flood comes Collect water level data and monitor the news closely Prepare to cope with situation carefully and spare food, drinks, medicines and other essential items 	<ul style="list-style-type: none"> Introduce location of evacuation center and inform that there will be staff support available 24 hours In case of flood, evacuate to evacuation sites for safety and to get assistance Ready to help victims, distribute food and drinks, and support one another Advise people to take self-care and stay healthy, be aware of accident and disease Move belongings to the higher places and monitor water level Survey locations of victims and investigate property damage

Information Access

The study interviewed three dimensions of information access in the 2011 flood, including flood data management, identification of damage during the flood, and information needed. Results showed that approximately 41% of CF already had flood data management system

available in pre-flood period. Similarly, 47% of CF had the data system available during the flood. The details of data types and sources are shown in Table 6.

Table 6: Flood-related data collection and management

Pre-flood	During flood
<ul style="list-style-type: none"> • Data from flood control center, government agency, departments, top management level • Physical data, photo, household data • Check water level and house condition on site • Media, e.g. television, broadcast tower 	<ul style="list-style-type: none"> • News from provincial office • Field survey, photos • Household data, victim profiles, vulnerable group profiles • Assess damage and progressive damage • Assess flood data

By knowing the real-time damage during the flood would encourage the flood preparedness and prevent from further damage and losses. Seventy percent of CF indicated knowing the damage during the flood. Local government, community leader, members and victims are the main sources of news. Damage information was identified through on-site visit and photo visualization as well as news and broadcast media.

Moreover, this study identified the most important information that CF needed based on their experience in all periods of disaster events, before, during and after the flood. The important information needed in pre-flood, during and post-flood periods were provided by 82%, 79% and 74% of CF, respectively. Table 7 illustrated the variation of necessary information revealed from the CF in each period. As expected, real-time water situation was necessary for all flood periods.

Table 7: List of the important data revealed by CF

Important information	Pre-flood	During flood	Post-flood
• Real-time and reliable water (flood) level, direction, situation in the area and its surroundings	✓	✓	✓
• Weather, water, flood forecast and flood risks areas	✓	✓	
• Warnings, instructions, communication on flooding	✓	✓	
• Water drainage system	✓		
• Staff and equipment	✓		
• Real-time photo of water flow		✓	
• Location of evacuation center, shelter, food supplies, where to get assistance		✓	
• Distribution spot for food and drink		✓	
• Disaster prevention and mitigation guidelines		✓	
• Victim profiles and damaged areas			✓
• Remediation for victims			✓
• Ways to connect for assistance center and the key persons			✓

Key Considerations From the 2011 Flood Experience

CF personnel reflected some key points for consideration in developing a more effective coping strategy as summarized below.

- Assign lead responsibility to specific department and organization to provide timely response to disaster events for effective assistances to community
- Timely and reliable forecast and warnings, such as flood situation, rainfalls, water level

- Local authority providing food supply to victims, including vulnerable households
- Establish effective monitoring and forecast system
- Communication on flood situation to the public, such as real-time flood situation
- Support from other emergency responders on financial resources and public facility, such as building dams along the riverbank and waterway
- Clearance of physical obstruction along the drains or waterway and monitor local condition for drains

Strategy for Resilient Recovery

The key reflections from CF were classified into three components in developing the resilient recovery strategy. Firstly, the people-related components, organization should assign specific department to be team leader for preparing in pre-flood period and taking actions during the flood. In addition, the local authorities should ensure the provision of rapid response to vulnerable and marginalized household, including children, older adults, people with illness and people with disabilities both in urban and rural settings.

Secondly, the essential physical components should be monitored and supported. For instance, maintenance of protecting structure along the riverbanks and waterways, management of food and water supplies to households that were affected, including the vulnerable groups, removal of any physical obstructions of drainage system or waterway. Moreover, some potential recovery assistance to agricultural and business sectors would benefit clean up restoration process and infrastructure repairment. These assistances would therefore facilitate their rapid restoration. Further, reviewing the land-use planning as a holistic approach would be an opportunity to reduce the vulnerability in the long-run.

Finally, the system components involved accurate and reliable data sources, clear warning message and communication on flood risk to spread awareness in the community. The hazard mapping along with the training should be available to the public to enhance understanding on disaster risks. Additionally, hazard mapping with the application of real-time data would support an effective early warning system. Importantly, dissemination of information and communication channels are the tools to help people understand the situation.

Conclusion

CF in the community play a key role in prevention of any further damage and loss in disaster events. Findings in this study examined flood damage and factors related to recovery and reconstruction. Teamwork, coordination and support of other emergency responders led to rapid restoration. These are the driving factors in promoting quick flood resilience in each area and community as a whole. However, recovery in some places delayed due to equipment, personnel and financial limitations. In coping with flood situation, only a few CF that prepared measures to support communities and provided specific instructions to staff in advance to support the victims. The systematic plan and implementation on preparedness and instruction process would minimize potential losses. This would sustain the function of CF operations and, therefore, would further secure people' livelihood and well-beings.

Additionally, the lesson learnt from CF highlights that sharing necessary information, particularly the real-time water level, and facilitating immediate access to them would allow stakeholders and population of all groups to be prepared and cope with the situation more efficiently. Lastly, in area-based disaster management, human resources, physical assets and

data communication system are the three main components and should be revised continuously and integrated into the existing disaster management procedures.

For further implication to develop coping strategy of CF in other areas, the existing strategy and coping capacity of CF in different communities should be explored. Therefore, it is necessary for the national and local government to understand the procedure of CF as well as their strategy and capacity, including knowledge and information system, and realize certain demand to develop the CF to serve as the key assistance and support in flood-prone communities.

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References

- Asian Disaster Preparedness Center (ADPC). (2015). *Guidance on Critical Facilities*. Disaster Recovery Toolkit, Tsunami Global Lessons Learned Project. www.adpc.net/tgllp/drt
- Bach, C., Gupta, A.K., Nair, S.S. & Birkmann, J. (2013). *Training Module: Critical Infrastructures and Disaster Risk Reduction*, National Institute of Disaster Management and Deutsche Gesellschaft for Internationale Zusammenarbeit GmbH (GIZ), New Delhi, 72p.
- Fekete, A. (2019). Critical infrastructure and flood resilience: Cascading effects beyond water. *WIREs Water*, 6, 5.
- Gangwal, U., Siders, A.R., Horney, J., Michael, H.A. & Dong, S. (2022). Critical facility accessibility and road critically assessment considering flood-induced partial failure. *Sustainable and Resilient Infrastructure*, 8, 337-355.
- Global Water Partnership. (2017). *The 2011 Thailand Floods in the Lower Chao Phraya River Basin in Bangkok Metropolis*. Global Water Partnership (GWP).
- Huddleston, P., Smith, T., White, I. & Elrick-Barr, C. (2022). Adapting critical infrastructure to climate change: A scoping review. *Environmental Science and Policy*, 135, 67-76.
- Krausmann, E., Girgin, S. & Necci, A. (2019). Natural hazard impacts on industry and critical infrastructure: Natech risk drivers and risk management performance indicators. *International Journal of Disaster Risk Reduction*, 40.
- Mukherjee, M., Abhinay, K., Rahman, M.M., Yangdhen, S., Sen, S., Adhikari, B.R., Nianthi, R., Sachdev, S. & Shae, R. (2023). Extent and evaluation of critical infrastructure, the status of resilience and its future dimensions in South Asia. *Progress in Disaster Science*, 17.
- Oh, E.H., Deshmukh, A. & Hastak, M. (2010). Disaster impact analysis based on inter-relationship of critical infrastructure and associated industries: A winter flood disaster event. *International Journal of Disaster Resilience in the Built Environment*, 1, 1, 25-49.
- Petersen, L., Fallon, L., Reilly, P. & Serafinelli, E. (2018). Public expectations of critical infrastructure operators in times of crisis. *Sustainable and Resilient Infrastructure*, 5, 62-77.
- World Bank. (2012). *Thai Flood 2011: Rapid Assessment for Resilient Recovery and Reconstruction Planning*. Bangkok: The World Bank.
- Yusoff, N.A., Shafii, H., & Omar, R. (2017). The impact of floods in hospital and mitigation measures: A literature review. *IOP Conf. Series: Materials Science and Engineering*, 271.

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***Non-linear Modernisations: A Comparative Paper on Ottoman and Chinese Intellectuals
on the Issues of Progress, Science and Modernity (1860s-1910s)***

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Abstract

This paper examines the interactions between the role of tradition (religion, culture) and modernity (democracy, liberalism, science) in the intellectual landscapes of the Ottoman Empire and Qing China during the late 19th and early 20th centuries. The author investigates the concept of modernity and its meanings for the intellectuals of the time, questioning whether the modernity means acceptance of Western techniques as a model or if there is room for adaptation with traditional values for these intellectuals. The historical context of the "sick man" and "saving the empire" rhetoric in both the Ottoman Empire and Qing China were vivid topics of the 19th century. Both of these empires experienced reform periods in the mentioned century, which led to a discussion of their intellectuals to what degree should the empires be "modernised." These debates included with some advocating for the incorporation of Western ideas to only in a limited manner, while others sought radical reforms, influenced by the experiences in the West and Japan. The article focuses on some key figures that were categorized as radical and conservatist intellectuals. The paper looks at the writings of the intellectuals like Kang Youwei, Namık Kemal, Chen Duxiu, and Beşir Fuad and gives a historical background. It argues that even seemingly radical figures exhibited a nuanced stance, acknowledging certain traditional values while advocating for modernization, like Yin-Yang symbolism. The opposite of this phenomena is valid for the so-called conservatist figures. That means, tradition and modernity does not always create a dichotomy but creates an amalgamation in the non-European world.

Keywords: Modernity, Ottoman Empire, Qing China, Intellectual History, 19th Century

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Introduction

Modernity cannot be defined with one word or concept. Because of the fluidity of the term, it is not possible to offer a single definition. Is it possible to become modern by adapting only Western techniques, such as the technological developments in the Europe? That means, metaphorically, is it possible to drive the train with the “eastern mind?” Or was one should be mentally westernised to start the engine of the train? These questions flew over the head of Chinese and Ottoman intellectuals, especially in the 19th century when both empires suffered from crises. This paper argues that modernization in non-Western countries did not follow a linear path or can be explained by a conflict-resistance theory. Modernity and tradition both contained elements of each other, and intellectuals offered solutions to save their empire by blending each terms together.

Historical Context of “Two Sick Men”

The long 19th century contained many “sick men,” which were defined by the European imperialism. The “sick man of Europe,” or “sick man of the West Asia,” the Ottoman Empire, was one of the most immediate examples of such a description. Starting from the early 18th and to the 19th century, Ottomans lost in the military struggles, lost their territories in the independence wars of its different subjects, and suffered humiliating losses against the European powers in the battles. The reforms in the 19th century, beginning during Mahmud II's reign, aimed to modernise the all social, economic and political spheres of the Ottoman Empire. From state schooling to adapting the French civil and penal code, Tanzimat Reforms in the 1830s aimed to “heal” the empire by creating new institutions. Mainly the new-schooling system will introduce new ideas, such as materialism and western science, to the masses of the Ottoman Empire. The heyday of these debates was the reign of Abdülhamid II, who was considered as both autocratic but also knew how to adapt the changes of the 19th century, favoring of the modern ways to enhance his position in the throne, such as by using the mass education and press (Fortna, 2003; Yosmaoğlu, 2003). Under this atmosphere of the late 19th century, the Ottoman intellectuals, comprised of many different groups, from materialists to more conservatists had the opportunity to hear out their voices.¹

The other “sick man of East Asia,” Qing China, was suffering from the Opium Wars and disastrous Taiping rebellions in the mid-19th century. Qing China followed a similar path to the Ottoman Empire to “heal” itself. During the Late Qing period, a series of institution-based reforms were made, from opening foreign language schools to opening an arsenal. (Elman, 2005, p. 360) The era was called as “Self-Strengthening Period” (zhiqiang yundong) and covered 1861-1895 until the defeat against Japan.² “Traditional learning (jiu xue) for the essentials, new learning (xin xue) for its usefulness,” as Zhang Zhidong emphasised (Tsaba, 1990, p. 59) the viceroy of Huguang, was the fundamental concept of the Self-Strengthening period. However, especially after the defeat against Japan in the last quarter of the 19th

¹ For the 19th century modernization of the Ottoman Empire, see, Stanford Shaw and Ezel Kural Shaw, *History of the Ottoman Empire and Modern Turkey, vol. II: Reform, Revolution, and Republic: The Rise of Modern Turkey, 1808-1975*. Bernard Lewis, *Emergence of Modern Turkey*.

² The Self-Strengthening Movement was a set of reforms initiated by the Qing dynasty in China, aimed to strengthen the country after the devastating Opium Wars and Taiping Rebellion (1850-1864). This movement focused on opening new institutions, maintaining social order, and improving the economy with a limited Westernisation. However, its success was limited, and China's defeat in the First Sino-Japanese War of 1895 marked the end of the Self-Strengthening Movement. See, Patricia Buckley Ebrey, *The Cambridge Illustrated History of China*, 244-246. John K. Fairbank and Denis Twitchett, *The Cambridge History of China*, vol.11, Cambridge: Cambridge University Press, 1978.

century, some Chinese intellectuals looked for more radical solutions to “save the empire” and left the reconcile policies such as merging traditional Chinese knowledge with Western science (Elman, 2005, p. 392).

Rather than reconciliation, new intellectuals, who were deeply influenced by the Japanese “Meiji Restoration”³ and educated in Europe and the United States, were influenced by western ideals first, and later they attacked the tradition. In the context of China, the tradition meant Confucian ideals. However, Confucianism had drastic attacks from the times of the 1850s to 1910s. Chen Duxiu, who had a traditional degree and an education in modernised Japan and Europe, highlighted the parallel between being old and wise in traditional Chinese thinking in his “Call to Youth” in *La Jeunesse* in 1915. On the other hand, according to Chen, Englishmen and Americans gave prominence to the youth. He advocated that just like the new cells of the body, in the process of metabolism, the old ones will be removed from the body (Schoppa, 2017, p. 164). Hence, the saviour of China would not be the “old and wise” people but the young ones. In addition, these young ones would be the ones who will destroy “old and rotten.” The comparison of Chen the Western and the Chinese way of thinking is important since Chen favours the Western way of thinking for the progress of China.

“Yin-Yang” and the Intellectuals of the Non-Western Empires

Let us turn back to the train and machinist dilemma. The “machinist”, i.e. the intellectual (or people) and the “train”, i.e. the modernisation dilemma became such an intermingling question that intellectuals of the late 19th and the early 20th century fought tooth and nail against each other. One group of these argued that in order to modernise and save the nation, it is also necessary to adopt western ideas, and leaving aside the traditional behaviours and culture. Some expressed reservations about the proposed changes, even though they agreed that a shift in thinking is necessary. They believe, however, that progress can coexist with tradition.

However, modernity is not a notion that can be reduced to “modern” versus “traditional” conflict. Modernity, especially in non-Western countries, experienced peculiarly, includes both western thinking and traditional ideas. Even the most ardent supporters of total westernization, materialists and positivists, had the potential to show how tradition influenced their mindset. The same is true for the other side of the coin. Intellectuals who, on the surface quite conservative and bound to tradition did not remain docile towards modernity in terms of philosophical and scientific ways. In Qing China and Ottoman Empire, rather than a conflict of modernity and practice, there was the flux of both traditional and modern ideas and adaptation of these ideas by the intellectuals. In that terms, “Yin and Yang”⁴ depicts the situation of the late 19th and early 20th century Ottoman and Chinese thinkers.

³ Japanese experienced a similar occupation and economic threat that China in the middle of the 19th century. American Commodore Matthew came to Japan in 1853, demanding the breaking the isolation of Japan and also wanting trade opportunities for the United States. Although they somehow repealed the first negotiations, in 1858 they could not delay the treaties and had to sign them. Consequently, eight trade ports were made available to trade and the Japanese lost its tariff control This had consequences for the Tokugawa Bakufu. The Satsuma-Choshu alliance overthrew the Tokugawa emperor and the Emperor Meiji would ascend to the throne in 1868. From this date, Japan underwent a modernity process called Meiji Restoration that was a product of the alliance of the Meiji cadres. See, Andrew Gordon, *A Modern History of Japan: From Tokugawa Times to Present*. Mikiso Hane and Louis G. Perez, *Modern Japan: A Historical Survey*.

⁴ The Yin and Yang symbol embodies harmony by depicting the balance between opposing forces in the Eastern thought. See, Britannica, T. Editors of Encyclopaedia (2024, June 25). *yinyang*. <https://www.britannica.com/topic/yinyang>.

It is important to note that over the years, especially after the foundation of the Republic of Turkey and the May Fourth movement of China, and the related 1923 debate of science, science as the path-finder debates increased like never before. Hanioglu succinctly shows the materialist essence of Kemal Atatürk's, one of the key founders of the republic of Turkey, statement on science as the guide of life "[h]ayatda en hakiki mürşid ilimdir (the most truthful guide in life is science) (Hanioglu, 2005, p. 82). According to Atatürk and most of his compatriots, science can be the only salvation and guide of the people and the state. 1923 debate of Science in China also followed similarly with Turkey. In that debate against the "traditionalists" or "metaphysicians," intellectuals like Hu Shi argued that science can teach and show life's essence and meaning (Kwok, 1965, p. 156).

Hence, I will present a small glimpse into this flux of modernity and tradition debates. I will follow a chronological timeline and compare the Ottoman and Chinese intellectuals on the issue of modernity and tradition, with more inclination toward the topic of science. "Mr. Science," who was an important figure of the May Fourth Movement⁵ together with "Mr. Democracy," in fact, did not emerge in 1919. Its legacy dates back to missionaries of the past dynasties, but for the sake of the length of my paper, I will limit myself to a period of 1860-1910s, which is still actually a pretty long period, but appropriate to see the changes and interactions of thoughts, both in the Ottoman Empire and China.

Tradition, Progress and Science

The late 19th and early 20th centuries saw a period of fervent intellectual exploration within the Ottoman Empire and Qing China. Confronted with the West's progress in technology and societal structures, intellectuals in both regions sought to understand the role of their own traditions. This introspection aimed to determine if these traditions hindered, or perhaps even facilitated, their path towards progress. The Young Ottomans, a group advocating for a constitution in the Ottoman Empire, faced exile in the early 1860s for their beliefs. While living in France, (and even before that time) they were greatly influenced by French political ideals, which they saw as a model for reform in their homeland. (Fortna, 2003, p. 15; Ülken, 2013). As Hanioglu argues, later generations thanks to the modernisation efforts of Abdülhamid II in a ironic way, were under the influence of western thoughts like scientific materialism. The number of printed scientific books in the reign of Abdülhamid II surpassed those related to religion (Hanioglu, 2008, p. 157).

However, it is also important to note that modernisation in education does not necessarily mean the cause of flourishing western ideas. As Fortna explains well, the modernisation of education in the Ottoman context did not exclude or reduce the importance of the tradition for the students or the state, contrary to the modernist approach to history (Fortna, 2003, p. 12). Since tradition and modernisation went hand in hand, Ottoman intellectuals were deeply in a sea of thoughts, like the questions we asked at the beginning of this chapter. Kang Youwei, a Chinese reformer, critiqued the Ottoman approach to modernization. He argued that the Ottomans despite their efforts to implement Western-style education they merely imitated superficial aspects of Western society. According to Kang Youwei, French is the foreign

⁵ May Fourth Movement was a movement that was initiated by the students and young intellectuals happened after the Paris Peace Conference of 1919, and they were against the sign of treaty of Versailles, which would lead to the loss of Chinese territories to Japan. These young nationalist students and intellectuals were more iconoclast and offered a more radical set of solutions for the problems China had experienced. See, Vera Schwarz, *The Chinese Enlightenment: Intellectuals and the Legacy of the May Fourth Movement*, University of California Press, 1987.

language of the Ottomans who can speak other than Turkish; the political thoughts and ideologies also came from the French intellectuals to Ottoman lands, Ottomans thought what the French did (revolution) all the time, but this is only a change in the external side. In Kang Youwei's view, the limited number of students enrolled in these modernized schools, coupled with prevailing 'backward' ideas, hampered true progress. Kang Youwei notes that even though the constitution is enacted, because of the imitation of the exterior side, the backwardness in the Ottoman Empire will not be fixed (Fidan, 2013, p. 6).

Seeking the Science and Ideal Government in the Roots

Ottoman intellectuals grappled with the complex relationship between progress and tradition. Tradition in the empire was deeply intertwined with Islam, raising a question that scholar Ernest Renan posed: could this close association explain the perceived lack of modernization in some Islamic societies? The answer, however, is not so simple. The Young Ottomans, embraced Western ideas and advocated for reform, others viewed Islamic principles as the foundation for a progressive Ottoman society. This debate highlights the diverse perspectives within the Ottoman intelligentsia on how to navigate the path towards a modern future. Did Islam “always harass science and philosophy?” (Renan, 1883, pp. 16-17). Some intellectuals, like the famous Young Ottoman Namık Kemal, fervently opposed Renan's opinions on Islam. In his famous *Renan Müdafaaamesi* (Refutation of Renan's Allegations Against Islam), Namık Kemal argues that Islam and the followers of Islam always favoured nature and mathematic sciences. Even the Quran has verses that prove the authenticity of scientific knowledge, like the orbiting of the Sun or the pouring down of the rain (Kemal, 2018, p. 21). The two influential Muslim philosophers and physicians Avicenna (Ibn Sina, d.1037) and Averroes (Ibn Rushd, d.1198) took charge of the state and the government. Were these figures not the signs of the philosophy's and philosopher's importance in Islamic lands? Namık Kemal asks (Kemal, 2018, p. 41). For Namık Kemal, Islam is not an obstacle; rather it serves as the fuel of progress, with the “scientific” roots and the importance attached to science and philosophy in Islam.

Chinese intellectuals in the 19th century also had different views on the need for progress. Kang Youwei, Liang Qichao had similarities with their Ottoman compeers. They offered the 1898 Reforms, which was a shortly-lived reform program implemented in the reign of Guangxu Emperor. They also tried to adapt western terms into the traditional set of thoughts or sought to “revive” tradition (Confucianism in the Chinese context). Tan Sitong, one of the reformists and politicians of the 1898 reforms,⁶ promoted the reconciliation of Western thinking and Confucianism. Having been influenced by the Western missionaries' translations, *Jinwen Jingxue* (the Current Text Confucianism) and Buddhism, Tan offered a new term, *yitai*, which means aether alongside the Confucian *qi*. According to Tan, *yitai* “... has no visible form, no sound, no smell or taste” and “penetrates everywhere and connects everything.” (Wright, 1994, p. 553) Tan explains that every different set of minds offered different names for this substance. that Confucius called this matter “ren” (loving-kindness), Buddha as “Buddha-Nature” and “...compassion and mercy.” Jesus Christ called it the *Holy Spirit*. Scientist call this substance “affinity” and “gravitational attraction.” (Wright, 1994, p.553) According to Tan, what bounds husband and wife, fathers and son, family, nation, and the world is this substance, *yitai*. Tan accepts that atoms form the human body, but when the atoms dissolve, one substance remains: ether or *yitai* (Wright, 1994, p. 553). One can see how

⁶ He was one of the executed figures of the reform initiative, *liù jūnzǐ* (six gentlemen).

Tan Sitong uses the atomic concept of the living organism, but at the same time, he sticks to the traditional *qi*.

Kang Youwei was the central figure of the 1898 *Wuxu* Reform. He submitted fervent essays to Emperor Guangxu to initiate a reform. Eroğlu argues that Kang saw Confucius as a reformer of his time and questioned the authenticity of the Confucian texts after his death. According to Eroğlu, Kang believed Confucian texts had elements of change and reforms (Eroğlu, 2006, p. 262). In an essay that Kang wrote to Guangxu Emperor on January 29, 1898, he urged for a set of reforms that would be initiated by the emperor. One of the main highlights of his essays was forming new institutions and the existence of corrupt ministers in the palace. Interestingly, though he admired the institutions of the Three Dynasties, he finds them too “ancient” to adapt to the present, therefore there was a need to reform these institutions in China. Comparing the French and American governments, Kang portrays changes of these two governments that happened long ago, and their customs are different from Chinese tradition. Hence, these countries also cannot be taken as a model for China. On the other hand, Russian Empire and especially Japan can be a model for China, with its Meiji restoration and similar customs to China (Bary & Lufrano, 2011, p. 362) So, as Elman argues rightly, Kang Youwei promoted Confucian texts to govern the state (Elman, 2005, p. 398), but in the meantime, he proposed a modernisation based on the Japanese model. Despite their distinct cultural contexts, Kang Youwei's quest for national salvation through Confucian texts and Namık Kemal's emphasis on science's compatibility with Islam share a common thread: both sought renewal through a reinterpretation of their respective traditional and religious texts.

Hence, Namık Kemal, Tan Sitong and Kang Youwei; these “conservatist” figures of their times did not oppose western (or westernised) values at all. They sometimes specifically adopted the way of the West and sometimes thought the salvation lay in the ancient, but the “ancient” needed a reform. Hence, “conservatism” does not necessarily mean the rejection of western values in science or government (constitutional monarchy) but an adaptation of the tradition and the modern.

Negotiating Modernity: Tradition in Radical Thought

Having read about some “conservatist” figures, one may ask about the mindset of the intellectuals who were labelled as “modernist” or “radicals” The late 19th and early 20th century witnessed the flux of ideas, incoming western ideas such as progressivism and materialism. Both Ottoman Empire and Qing China, with their reforms on education, sending students to Europe, Japan and the United States, though China especially sent its students to the last two. Hence, when the students encountered the “modern,” they either tried to adapt the modern way but also attacked the tradition harshly, in an urge to save the nation or change the society. The fellowship programs like Boxer Indemnity of China gave the opportunity, and the students sent to this program later founded the Science Society of China in 1915. *Kexue*, an affiliated journal of the Science Society of China, advocated that only science will rescue the [Chinese] people (Wang, 2002, p. 302). In the case of the Ottoman Empire, from the 1860s, many scientific journals and societies flourished, namely the journal of *Mecmua-i Fünun* (Society of Sciences Journal) or *Cemiyet-i İlmiyye-i Osmaniye* (Ottoman Society of Sciences) which introduced and popularised science. Furthermore, intellectuals wrote in the newspapers and published books to show their stance towards science.

In the Ottoman Empire and Qing China, some intellectuals saw tradition as the cause of backwardness. Probably, we cannot find better examples for such a category rather than Beşir Fuad and Chen Duxiu. Both figures were ardent proponents of modernity and attackers against tradition. But having charges against traditions does not mean these figures did use any traditional rhetoric in modernisation.

Chen Duxiu argued, "... if we support Mr. Science, we must oppose old arts, old religion... In their [the Westerners'] effort to champion Mr. Democracy and Mr. Science, how many disturbances have been caused and how much blood has been shed?.. In supporting these two Messrs., we will not be cowed by the oppression of government and by the jeers and attacks from society—even if we have to spill our blood and lose our lives" (Fan, 2022, p. 280). On the other hand, Beşir Fuad, the avant-garde of the Ottoman intelligentsia, literally died for science by writing what he had done and felt during his suicide. A pioneering figure of the late Ottoman intelligentsia, Besir Fuad stands out for his unwavering commitment to scientific materialism. His act of suicide, accompanied by detailed notes on his physical and psychological experience during the action, exemplifies his dedication to science. Rejecting metaphysical explanations for human existence, Beşir Fuad embraced a materialist worldview, seeking to propagate the principles of scientific inquiry (often referred to as 'scientism' in the late 19th century) among the Ottoman literati through his writings. For example, his article "Heart" harshly criticised the lyric poets who saw the heart as more than a "muscle" (Hanioglu, 2005, p. 36). According to Beşir Fuad, literature should be "realistic", and writing lyrical poems are easier than creating scientific articles (Hanioglu, 2005, p. 36). Nevertheless, even such an ardent materialist did not directly attack Islam but took Christianity as a dogma to defend science's supremacy safely. (Hanioglu, 2005, p. 36; Poyraz, 2014, pp. 16-17). Because, as Poyraz explains well and quoting from Orhan Okay, he could not attack Islam in the time he lived. After approximately 30 years, when Kemal Atatürk said, "*en hakiki mürşid ilimdir*" (the most truthful guide in life is science), Atatürk had a legacy of scientism in Ottoman Empire. Beşir Fuad on the other hand was one of the first examples of his generation, who were exposed to scientism, modernism and materialism. But his attacks on tradition never took the shape of attacks on Islam, which would be a great disturbance for him, both among the intelligentsia and within the state.

Chen Duxiu, was a radical intellectual who got a traditional education and disgusted by the imperial examination system, *keju*, of China. He experienced his first "western" style of education in Shanghai, went to Japan. It is exciting but not surprising to see that Chen read Kang Youwei's and his student Liang Qichao's articles in *Shiwu bao* which impressed him with their reformist ideas (Tsaba, 1990, p. 109) With his compeers in Japan, Chen founded the Chinese Youth Society, and after his return from Japan, he formed a revolutionary youth society in his hometown Anqing in 1903 (Tsaba, 1990, pp. 112-115). An impassioned believer in the youth, Chen always considered youth as the saviour and especially after the failure of the 1911 revolution to make China a republic (because Yuan Shikai attempted become an emperor after overthrowing of the Qing dynasty) urged him to find solutions to "save" China. Believing that culture and thought would determine the political and economic superstructure, Chen Duxiu published the iconoclast *La Jeunesse* in 1915.

Chen Duxiu saw Confucian doctrine as oppressive as it blocks individualisation because of notions like filial piety or widow chastity (Bary & Lufrano, 2011, p. 468). Vernacularisation of Chinese in writings was another prominent aspect of Chen's modernisation understanding, as he advocated that "classical literature exaggerates and piles word after word and has lost the fundamental objective of expressing emotions and realistic descriptions." In the word of

Chen, classical literature is “ornaments with no use.” With respect to their contents, these writings include anything but aristocrats, kings, ghosts or spiritual beings (Bary & Lufrano, 2011, p. 477). In that terms, Chen Duxiu's opinions on literature resemble Beşir Fuad's views on “realistic” literature.

However, even though Chen was an iconoclast, he also had his reconciling and compromising stance against Confucianism. Hence the complaints of Liang Qichao's and Chen's charges against Confucianism as a despotic, autocratic doctrine that inhibits progress and not taking the wisdom and modern values Confucianism was partly right but also partly wrong, as Chen Weiping asserts. Chen Weiping claims that Chen Duxiu and his followers were quite aware of the Confucian values' importance as these values (moderation, goodness, respect, frugality, forbearance, trustworthiness, righteousness, and a sense of honour and shame) were practised in the world by all people “who practice morality” (Chen, 2017, s. 178). Liang Shuming will later remunerate Chen Duxiu because the New Culture Movement and *La Jeunesse* understood the importance of Confucian values and the oppressiveness of rites by saying, “at that time, he was the only person who saw things so clearly!” (Chen, 2017, s. 178). After becoming a professor in the Peking University, Chen Duxiu also tried to calm the “radical” side of the New Culture Movement by stating that New Youth followers took the example of Cai Yunpei⁷ to show respect to both new and old schools and paid attention to academic discussion (Chen, 2017, s. 179). Even though Chen Duxiu was one of the leading figures of the iconoclastic New Culture Movement, he tried to balance the “radical” veins of the movement and was well aware of Confucian values. His rejection of Confucianism does not mean abolishing traditional “values” but a need for urgency to adopt a new “doctrine” and “learning method.” According to Chen, this doctrine was science and modernisation. But although being critical of Confucius's doctrine and classical literature, Chen Duxiu still respected some of the values of Confucius and the followers of the “old school.”

Conclusion: Non-linear Modernisations

This paper aimed to show how two non-European empires' intellectuals interpreted modernization and offered solutions to “save” their empires from the upheavals and problems they had to face to, such as rebellions, crises and imperialism threat. These solutions varied from a limited reform from taking the technology of the West to the change of a mentality. However, both the so-called conservatist and modernist intellectuals of the time implemented some elements from their culture to the modernity definition. Hence, this analysis highlighted the interconnectedness of tradition and modernity, reflecting the Yin-Yang symbolism which the concepts cannot be understood by isolating them.

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⁷ Cai Yuanpei was served as minister of education both in the time republican China of Yuan Shikai and in the time of the New China. He was also the director of Peking University from 1916 to 1926 and the founder of the Acedemica Sinica. See, Lizhong Zhang, Cai Yuanpei (1868-1940), 147-157.

References

- Bary, T. d., & Lufrano, R. (2011). *The sources of Chinese tradition* (2 ed.). New York: Columbia University Press.
- Chen, W. (2017). An analysis of anti-traditionalism in the New Culture Movement. *Social Sciences in China*, 38(2), 175-187.
- Ebrey, P. B. (2010). *The Cambridge illustrated history of China* (2 ed.). Cambridge: Cambridge University Press.
- Elman, B. A. (2005). *On their own terms: Science in China, 1550-1900*. Cambridge: Harvard University Press.
- Erođlu, H. (2006). Çin ve Osmanlı'da meşrutiyetçi düşünce ve milliyetçiliğın doğuşu: Karşılaştırmalı bir inceleme. *Divan*(20), 259-277.
- Fairbank, J. K., & Twitchett, D. (1978). *The Cambridge history of China* (Vol. 11). Cambridge: Cambridge University Press.
- Fan, F.-t. (2022). Mr. Science, May Fourth, and the global history of science. *East Asian Science, Technology and Society: An International Journal*, 16(3), 279-304.
- Fidan, G. (2013). *Çin'den görünen Osmanlı: Çinli düşünür Kang You Wei'in Türk seyahatnamesi*. İstanbul: Yeditepe Yayınevi.
- Fortna, B. J. (2003). *Imperial classroom: Islam, the state and education in the late Ottoman Empire*. Oxford: Oxford University Press.
- Gordon, A. (2003). *A modern history of Japan: From Tokugawa times to present*. Oxford: Oxford University Press.
- Haniođlu, Ş. (2005). Blueprints for a future society: Late Ottoman materialists on science, religion, and art. In E. Özdalga (Ed.), *Late Ottoman Society: Intellectual legacy* (pp. 28-86). Abingdon: Routledge Courzon.
- Haniođlu, Ş. (2008). *A brief history of the late Ottoman Empire*. Princeton: Princeton University Press.
- Kemal, N. (2018). *Renan müdafaaanamesi*. (N. Çetin, Ed.) İstanbul: Akçağ Yayınları.
- Kwok, D. (1965). *Scientism in Chinese thought, 1900-1950*. New Haven: Yale University Press.
- Lewis, B. (1968). *The emergence of modern Turkey*. Oxford: Oxford University Press.
- Mikiso, H., & Perez, L. G. (2013). *Modern Japan: A historical survey* (5 ed.). Colorado: Westview Press.

- Poyraz, S. (2014). Besir Fuad (1852-1887) and the introduction of philosophical materialism into the Ottoman intellectual life. *Review of History and Political Science*, 2(3-4), 1-21.
- Renan, E. (1883, March 29). Islam and science. *Lecture*, 2. (S. P. Ragep, Trans.) Paris, France: Sorbonne University.
- Schoppa, K. (2017). *Revolution and its past, identities and change in modern Chinese history* (3 ed.). London: Routledge.
- Schwarz, V. (1990). *The Chinese enlightenment: Intellectuals and the legacy of the May Fourth movement*. California: California University Press.
- Shaw, S., & Shaw, E. K. (1977). *History of the Ottoman Empire and modern Turkey, vol. II: Reform, revolution, and republic*. Cambridge: Cambridge University Press.
- Tsaba, N. C. (1990). *Facing both ways: Yan Fu, Hu Shi, and Chen Duxiu : Chinese intellectuals and the meaning of modern science, 1895-1923*. Doctoral Dissertation, Portland State University.
- Ülken, H. Z. (2013). *Türkiye'de çağdaş düşünce tarihi*. İstanbul: İş Bankası Yayınları.
- Wang, Z. (2002). Saving China through science: The science society of China, scientific nationalism, and civil society in republican China. *Osiris*, 17, 291-322.
- Wright, D. (1994). Tan Sitong and the Ether reconsidered. *Bulletin of the School of Oriental and African Studies, University of London*, 57(3), 551-575.
- Yosmaoğlu, İ. K. (2003). Chasing the printed word: Press censorship in the Ottoman Empire, 1876-1913. *The Turkish Studies Association Journal*, 27(1-2), 15-49.
- Zhang, L. (2000). Cai Yuanpei (1868-1940). *Prospects*, 23(1-2), 147-157.

Barbies on Board: Grievances and Contributions in Unequal Gender Competition at Listed Companies – Evidence From China

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Abstract

This study investigates the experiences of female directors behind the corporate curtain, inspired by thought-provoking scenes of the boardroom in Barbie's latest film. Utilizing a socialist feminist lens, we leverage panel data spanning 2008-2018 to quantitatively assess whether reality reflects the cinematic portrayal of imbalanced board diversity. Causal inference examines if greater gender diversity on boards ("More Barbies on Board") positively influences financial performance, while probing for subtle systemic biases against women leaders. The results reveal that the presence of female directors significantly enhances profitability and firm valuation, spotlighting women's unrecognized potential. However, women face disproportionately high education requirements despite qualifications showing no meaningful impact on outcomes. This imbalance signals lingering gender bias, even as female directors demonstrate productive contributions. By rigorously debunking assumptions and revealing obstacles, this study aims to reshape outdated perceptions of women's capabilities on and off screen.

Keywords: Board Gender Diversity, Female Directors, Socialist Feminism, Chinese Firms, Corporate Governance

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1. Introduction: A New Story Starts From the Board of Mattel in Film

The colourful Barbie Land in the Barbie film depicts a female-led utopia where women occupy diverse leadership roles, from presidents, justices to construction workers and post officer. Within this pink cinematic bubble, the audience accepts this novel setting as natural. And as a fantasy world dominated by women, the Barbie Land aligns with expectations. However, upon leaving the theatre, viewers return to reality where society remains largely male-dominated. For instance, as of July 2022, women held 32.7% of all seats in national parliaments across the European Union's member states. This proportion surpassed the global average of 26.4% for women's legislative representation worldwide (Eurostat, 2023). However, while the EU outpaces global norms, women's parliamentary participation remains well below gender parity within European legislative institutions. And in China, women represented only 26.54% of National People's Congress delegates in 2023 (China National Bureau of Statistics, 2023), and there are no longer any female members among China's current Politburo Standing Committee (Li, 2017). In the United States, just 10.4% of Fortune 500 companies had female CEOs in 2023 (Hinchliffe, 2023). Across occupations like law enforcement, construction, and engineering, women remain underrepresented, making up 12.7% of U.S. police officers, 8.1% of electrical and electronics engineers, and 8.5% of U.S. construction managers in 2022 (U.S. Bureau of Labour Statistics, 2022). This dramatic reversal, from egalitarian fantasy to patriarchal reality, underscores the gulf between cinematic visions and lived experiences.

This is particularly the case in film when Barbie firstly enters the Mattel Corporation, where Barbie dolls are designed and sold. The appearance of the board members is impressive: all are well-dressed men in black-tie, generating a striking juxtaposition of pink and black when Barbie bursts into the boardroom.

In film, Barbie voices the audience's underlying question: where are the female executives of this company? This is particularly relevant for a company primarily producing female-character toys. Unfortunately, in the film, the all-male board of directors occupies every single seat, turning a company that produces dream toys for girls into an old boys' club. The total absence of women in leadership roles perpetuates the status quo of male dominance in the corporate world. The film uses multiple plot lines and visual language to present a panoramic portrayal and biting satire of this phenomenon. Will Ferrell, the arrogant CEO in film, basks in the sycophantic praise of the all-male board while disregarding suggestions from Gloria, the lone female secretary, to the point of pretending she's invisible. But not surprisingly, such arrogance from male leaders seems to be not uncommon, as research has found that men in leadership exhibit higher levels of overconfidence and hubris compared to female leaders. A comprehensive review showed that men tend to overestimate their abilities and performance in tasks that require confidence (Barber & Odean, 2001). In studies of leadership style, male executives were more likely than women to describe themselves as visionary leaders with innate skills, reflecting arrogant self-perceptions (Eagly & Karau, 2002).

Through a socialist feminist lens, we may find some reasons how corporate capitalism and class dynamics perpetuate gender inequality in positions of leadership. Socialist feminism argues that the capitalist system intrinsically oppresses women by exploiting their labour and restricting their economic opportunities (Young, 1980; Hartmann, 1979). The boardroom dynamics in the Barbie film reflect the capitalist corporate structure that concentrates power in the hands of wealthy elites at the expense of marginalized groups. The all-male directors

occupy a privileged class position, excluding women who represent an oppressed social group.

Recent research has provided further evidence for this perspective. For example, Cook and Glass's study (2014) on women in top corporate leadership found that even women CEOs experience role engulfment issues stemming from capitalist norms of productive labour. They argue this inhibits women's empowerment despite their elite class status. Additionally, a study by Dobbin and Kalev (2016) examined the impact of shareholder-driven capitalism on diversity initiatives within organizations. The authors found that financial firms, in particular, faced challenges in promoting gender and racial diversity in leadership roles due to the prioritization of short-term financial gains and the pressure to meet quarterly earnings targets. This emphasis on immediate financial performance was identified as a barrier to the implementation of long-term strategies aimed at fostering diversity and inclusion. Applying a socialist feminist perspective allows us to critique how corporate capitalism concentrates wealth and influence among male elites while denying women equal participation and leadership. As Hartmann (1979) explains, capitalist systems confine women to lower-paid labour and domestic roles that serve the interests of men. The lack of female corporate directors suggests women's labour remains undervalued and their leadership capabilities dismissed.

In Asian countries, traditional cultural norms often dictate distinct gender roles, which can lead to discrimination and mistrust in the working capability of women. These gender roles are deeply ingrained in the societal fabric and can have a significant impact on women's participation in the workforce. The traditional perception of men as providers outside the home and women as caretakers inside the home can create barriers for women seeking to enter or advance in the workforce. Research by Alesina and Giuliano (2010) supports the notion that traditional gender roles in Asian countries can lead to discrimination against women in the workforce. Their study found that cultural attitudes towards gender roles significantly impact women's labour force participation. In many Asian societies, the expectation that women prioritize their domestic responsibilities over their careers can result in suspicion and mistrust regarding their ability to perform in the workplace. Furthermore, a study by Kabeer (2016) highlights the impact of traditional gender roles on women's economic empowerment in Asia. The study emphasizes that the division of labour based on gender roles perpetuates the idea that women are less capable in the workforce, leading to discrimination and limited opportunities for career advancement. Additionally, in Chinese corporate leadership, traditional Confucian values emphasizing gender differences and hierarchy have been linked to exclusion of women from top positions (Cooke, 2004). Research in Singapore showed the perception that women lack leadership competencies was more prevalent among men, creating barriers to advancement (Sandhu et al., 2021). However, some empirical studies have already debunked this traditional narrative. For example, studies of female CEOs in China (Matsa & Miller, 2011) and India (Tate & Yang, 2015) found their leadership improved firm performance, contradicting any mistrust in their capabilities.

Consequently, while criticizing the discrimination resulting from these stereotypes, we also aim to debunk these gender biases with more fresh evidence. Firstly, we will investigate the contributions of female directors to the listed companies they serve in China. We plan to perform regression analysis, studying whether an increased proportion of female members on board results in positive outcomes for company performance. This will respond to societal doubts about women's work capabilities while focusing on the impact of women's contributions to enterprise development.

Further, we will explore the hurdles female executives face in securing their admission tickets on board. Specifically, are these female board members held to higher expectations than their male counterparts, such as more stringent requirements for educational qualifications? Do such heightened entry barriers genuinely enhance company performance, or do they merely raise the threshold for women to gain admission to corporate boards?

We chose China as our case study for several key reasons. As the world's largest developing country, China has a massive and expanding economy with increasing numbers of women entering the workforce (World Bank, 2023). However, traditional gender norms still exert influence. Moreover, China lacks legislated quotas for women on corporate boards as found in some Western nations (Sarkar & Selarka, 2016; Chandler, 2016). This makes gender diversity on Chinese boards more dependent on changing corporate cultures and attitudes. By exploring the experiences of female directors in China, we can gain crucial insights into the obstacles and contributions shaping unequal gender competition in leadership across cultural contexts.

2. Theoretical Framework and Hypothesis Development

In this act, we will synthesize the socialist feminist perspective into a powerful conceptual framework to investigate the research questions through a discerning theoretical lens. Drawing from socialist feminism's piercing critiques of patriarchal capitalism, key hypotheses will speak to the impact of female directors on companies and the barriers constraining their ascent. These premises will direct the coming scenes involving regression and analytical procedures. By rooting our quantitative investigations in nuanced theory and targeted hypotheses, we can judge the veracity of proposed relationships against objective data. With the stage set and hypotheses clearly voiced, we ready our feminist research to take centre stage, subjecting assumptions to the insight of firm data. As the curtain rises, we prepare to enact an empirical performance that will advance socialist feminist perspectives through rigorous hypothesis examination.

a. Firm Performance and Gender Diversity

Resource dependence theory offers valuable insights into how board gender diversity can enhance firm financial performance. At its core, this theory posits that organizations rely on external resources for survival, and the board plays a crucial role in securing these resources from the firm's environment (Pfeffer & Salancik, 2015). Gender-diverse boards contribute to expanding the firm's resources and networks through various means. Firstly, female directors bring diverse perspectives, experiences, and skills to the board, thereby improving decision-making, advisory capabilities, and the board's ability to address complex strategic issues (Liu et al., 2014). This strengthens the board's role as a source of guidance. Secondly, the appointment of female directors enhances the firm's legitimacy in contexts where gender equity is a socially institutionalized value, as it signals a commitment to non-discrimination norms (Cox et al., 1991). Thirdly, female board members provide access to broader communication channels and stakeholder networks, including interactions with female employees, customers, and societal groups (Siciliano, 1996). Specifically, with regard to communication channels, female directors bring unique life experiences, perspectives, and analysis methods that distinguish them from their male counterparts. Their distinct strengths enable them to effectively engage with female customers, women in the workforce, and society at large. This gender diversity fosters a stronger connection between the company and its target audience, enhancing overall societal impact and facilitates the inflow of information

and resources. Fourthly, interconnected boards promote the diffusion of innovation within their networks, thereby reducing coordination costs (Hillman & Dalziel, 2003). Female directors tend to expand a firm's networks. Moreover, in majority of developed countries, legislation mandates a minimum representation of women directors within companies to ensure compliance with legal requirements. This regulatory framework underscores the importance of gender diversity in corporate governance and emphasizes the need for equal opportunities and inclusion in leadership positions. By setting a specific percentage threshold, these laws aim to promote gender equality and foster a more inclusive business environment. Finally, diverse boards demonstrate a commitment to equity and can prioritize inputs from previously underrepresented groups, thus securing their support and resources (Baysinger & Butler, 1985). Overall, empirical studies grounded in resource dependence theory consistently reveal positive links between board gender diversity and financial performance, although the specific context plays a significant role (Hillman et al., 2007).

In addition to resource dependence theory, perspectives on human and social capital further illuminate the ways in which board gender diversity can enhance firm performance. Social capital encompasses the resources embedded within social networks that individuals and groups can access through direct and indirect connections (Portes, 1998). Firms acquire social capital by establishing relationships, making network diversity a valuable asset (Booth-Bell, 2018). Given that men and women often possess different social networks, the inclusion of females on boards expands a firm's social capital by providing access to new contacts and stakeholders (Ibarra, 1997). Their networks offer unique opportunities, particularly within female customer segments. Beyond the social capital, it is important to consider the distinctions in human capital between male and female directors (Hillman et al., 2002). According to prior research conducted by Adams and Funk (2012), the concept of the glass ceiling highlights the challenges faced by women in reaching higher positions within organizations. Historically, women were perceived as more risk-averse and were believed to lack self-confidence and ambition. Additionally, they were often assumed to have limited access to appropriate education and experience required for leadership roles (Terjesen & Singh, 2008). These barriers can be attributed to a gendered social system in which job structures and expectations are predominantly shaped by men, perpetuating direct discrimination, and reinforcing gender stereotypes (Terjesen & Singh, 2008). Although women have historically faced barriers in education and experience, they are now acquiring elite credentials, such as MBAs and accountancy qualifications, at a faster rate than their male counterparts (Burgess & Tharenou, 2002; Terjesen & Singh, 2008). Women directors often possess international expertise, albeit with less board experience. Overall, female directors contribute diverse human capital in terms of leadership styles, interpersonal skills, and international experience.

Agency theory provides another perspective on how board gender diversity can influence financial performance. At its core, agency theory examines issues arising from the separation of ownership and control in modern firms (Jensen & Meckling, 2019). The board plays a vital monitoring role to ensure managers act in shareholders' interests. Diverse boards are better equipped for this oversight function. Women directors enhance cognitive diversity, resulting in more perspectives on strategic issues and rigorous questioning of management (Liu et al., 2014). Based on empirical findings, the presence of female board members in the boardroom has been shown to contribute to mitigating information bias during strategy formulation and problem-solving processes. They bring forth fresh perspectives and insights that enhance the understanding of intricate issues (Westphal & Milton, 2000). Female directors also exhibit greater engagement in monitoring activities compared to male peers (Sarkar & Sarkar, 2009).

This strengthened oversight curbs agency costs and aligns management with shareholder wealth maximization. However, some scholars argue excessive monitoring from highly diverse boards could undermine communication between directors and managers (Adams & Ferreira, 2009). While the findings suggest that women directors can enhance a company's financial performance through the introduction of innovative ideas, it is important to note that greater dissimilarity among directors can also lead to an increase in divergent viewpoints and potential conflicts within the board (Adams & Ferreira, 2009). In well-governed firms, over-monitoring from gender-diverse boards may even damage performance. The applicability of such critiques is context specific. In China's weaker corporate governance environment, gender diversity is unlikely to cause excessive oversight. Rather, Chinese firms plagued by agency issues can benefit from more rigorous monitoring by diverse boards. With inadequate external governance mechanisms, board diversity provides internal mitigation of agency costs.

Social psychology theory provides additional insights into how board gender diversity can impact financial performance through group dynamics. Research shows men often exhibit competitive, controlling, and hierarchical behaviours, whereas women tend to be more cooperative, emotive, and intuitive (Gallego-Álvarez et al., 2010). The interaction of these varying traits through gender diversity may stimulate positive social synergies. Diverse boards can generate more creativity by combining cognitive styles, enhancing problem identification and solution development (Westphal & Milton, 2000). Homogeneous groups are prone to groupthink and ineffective decision-making without divergent thinking. However, some studies suggest diversity may undermine social cohesion and increase conflict. Women's appointments could reduce harmony between male-dominated boards (Mogbogu, 2016). Decision-making may become more time-consuming with more dissenting views (Miller & Triana, 2009). Homogeneous groups can communicate and collaborate more seamlessly due to shared mindsets. In essence, social psychology theory posits a contingent relationship between gender diversity and financial performance stemming from group dynamics. Greater diversity can foster innovation but also increase coordination costs and interpersonal friction. The net effect likely depends on mediating factors like the board's openness to diverse views and ability to leverage cognitive differences.

The relationship between board gender diversity and financial performance lacks consensus, with theoretical rationales supporting both positive and negative links. Resource dependence, human capital, and agency theories largely posit that gender-diverse boards enhance performance by expanding resources, oversight, and perspectives (Hillman et al., 2007; Liu et al., 2014). However, social psychology theory notes diversity may also increase conflict and coordination costs, potentially undermining outcomes (Westphal & Milton, 2000). Empirically, findings are also mixed across contexts. Studies in the US and other developing countries like Turkey tend to find positive diversity-performance connections (Canyon & He, 2017; Kılıç & Kuzey, 2016). However, European research is more ambiguous, with some studies showing no impact, and others linking mandated quotas to worse performance (Marinova et al., 2016; Ahern & Dittmar, 2012). China provides a unique institutional setting to examine this relationship given its nascent governance systems. The lack of stringent corporate oversight mechanisms implies that gender-diverse boards could provide particularly valuable monitoring and resource advantages relative to costs. With few women on boards currently, additions are unlikely to cause excessive diversity. The empirical evidence also indicates Chinese boards remain dominated by men, limiting inclusivity of diverse views.

Taken together, theory and China's context suggest gender diversity's benefits may outweigh costs. Diverse boards can compensate for inadequate external governance through enhanced oversight. They provide alternative human and social resources lacking in male-dominated boards. Additional perspectives may also spur innovation without excessive relationship conflict given the hierarchical nature. As such, we hypothesize a positive effect of gender diversity on financial performance in China's transitional institutional environment.

Hypothesis 1 (H1):

The board with more female directors has positive influence on firm's financial performance in China.

b. Firm Performance and Highly Educated Directors

The presence of highly educated directors on corporate boards has been a topic of interest in recent years. There is a growing body of research examining the relationship between the educational background of directors and firm performance. Several studies have explored the relationship between female directors and firm performance in China. Green and Homroy (2018) examined the impact of female directors and board committees on firm performance. They found that the presence of female directors had a positive effect on firm performance, but this effect was not significant when considering the educational background of directors. This suggests that the educational qualifications of directors may not be a significant factor in determining firm performance. Li and Zhang (2019) also investigated the relationship between female directors and firm performance in China. They found that the presence of female directors had a positive effect on firm performance, but they did not specifically examine the impact of educational qualifications.

From a theoretical standpoint, human capital and resource dependence perspectives posit that education enhances individual and board capital, thereby improving governance and performance (Hillman & Dalziel, 2003). Highly educated directors bring expertise and diverse perspectives to the boardroom (Darmadi, 2013). However, other studies argue that the effects of human capital depend on contextual factors (Terjesen et al., 2016). In emerging markets with limited quality assurance and prestigious hierarchies, educational signalling may hold weaker significance (Lester et al., 2008). China represents such a transitional context, where the link between director education and performance has become decoupled. As explained by Li et al. (2015), earlier market reforms led firms to prioritize the appointment of credentialed directors for the sake of legitimacy and access to resources. However, this emphasis on credentials over competence has waned as institutions and business practices have matured. Peng (2004) also observes that Chinese state interference distorts standard talent signalling. Educational screening endures more as an institutionalized norm than a reliable indicator of ability. Moreover, China's governance landscape remains relationship-based, with director appointments placing greater emphasis on connections rather than qualifications (Fan et al., 2007). The state exerts pressure on these appointments, while dominant owners wield control over boards to serve their own interests. In this relational governance context, independent directors' monitoring role is marginalized, and executive power is often derived from political capital rather than human capital (Wang et al., 2022). Against the backdrop of these dynamics, directors' educational credentials hold less significance compared to their background and connections. Therefore, we expected that the presence of highly educated female and male directors, such as those with master's or doctoral degrees, may not have a significant influence on firm performance in China.

Hypothesis 2 (H2):

The board with female directors with highly educated degree has no influence on firm's financial performance in China.

Hypothesis 3 (H3):

The board with male directors with highly educated degree has no influence on firm's financial performance in China.

3. Staging the Analysis: Research Design***a. Sample***

This study employs a panel data analysis spanning from 2008 to 2018, encompassing a large sample of companies. The data regarding the board composition and financial performance is sourced from CSMAR. Initially, the dataset includes Chinese-listed companies from various stock exchanges, such as the Shenzhen Stock Exchange (including SME board-listed and Main Board-listed shares), Shanghai Stock Exchange shares, and the Growth Enterprise Market. Specifically, this study focuses on firms with A-shares, denominated in Chinese renminbi, as opposed to B-shares, which are quoted in foreign currencies like US dollars and are more favoured by foreign investors. The research exclusively concentrates on the Chinese market, and thus only includes A-share listed companies over an 11-year period. The data encompasses information on the percentage of females in the boardroom, the proportion of female and male directors with higher education, and some financial metrics of the listed firms. The percentage of females and directors with higher education data are hand-collected by the author, while the other data comes from the CSMAR database. Furthermore, to assess the impact of board gender diversity on firms' financial performance, this study utilizes an entity fixed effects analysis.

b. Date and Variables***i Dependent Variable***

This paper aims to assess a firm's financial performance by utilizing two key metrics: Tobin Q and return on assets (ROA). These variables serve as the dependent variables for our hypotheses. ROA and Tobin's Q ratio are widely recognized indicators for evaluating a company's financial performance. In alignment with previous studies conducted by Adams and Ferreira (2009) and Gul et al. (2011), which investigated the relationship between board gender diversity and firm performance. Therefore, we adopt ROA and Tobin Q as the dependent variables in all of our hypotheses. Tobin's Q is measured as the market value of assets divided by the book value of assets. However, to address skewness in its distribution, we use the natural logarithm of Tobin's Q (\ln Tobin's Q) as the dependent variable in regressions involving this measure.

ii Independent Variable

In hypothesis H1, we will examine the overall impact of board gender diversity on a company's financial performance by utilizing the independent variable "Percentage Females", which represents the percentage of females in the boardroom. This approach aligns with the methodology commonly employed in existing literature, such as studies conducted by Faccio et al. (2016) and Gul et al. (2011).

Moving on to hypothesis H2, we will employ the independent variable “Females in High Education”, which represents the proportion of female directors with higher education, to investigate its influence on financial performance. Similarly, for hypothesis H3, we will utilize the independent variable “Males in high Education”, representing the proportion of male directors with higher education, to evaluate its impact on financial performance. To clarify, the board of directors with higher education in this context refers to directors with educational qualifications at the postgraduate level or above, including doctoral degrees and MBAs.

iii Control Variable

In addition to the pivotal variables, the regression model shall incorporate several control variables, drawing upon prior empirical research (Brahma et al., 2021; Haynes & Hillman, 2010; Liu et al., 2014). These control variables are selected to account for factors that may influence the percentage of females in the boardroom. The control variables included in this study are net income (Net income), total employment (Employment), total board size (Board size), firm age (Firm age) and total number of independent directors (Independent directors). The summary statistics for the variables are illustrated in Table 1.

Table 1: Summary statistics of variables

Variable	Observations	Mean	Std	Min	Max
Firm	28,397	292782.1	277644.8	1	900957
ROA	27,184	.0331012	.8287334	-51.94684	108.3657
Tobin Q	27,184	.5972586	.5310683	-1.878835	9.603079
Percentage Females	27,184	17.54369	10.86837	0	66.66667
Females in High Education	25,672	54.45728	37.31832	0	100
Males in high Education	27,184	59.61395	24.48294	0	100
Net income	27,184	9.41e+08	8.65e+09	-1.70e+10	2.99e+11
Employment	27,184	6443.465	25378.2	2	552810
Board size	27,099	8.783793	1.883756	0	21
Firm age	27,184	15.84748	5.74534	0	51
Independent directors	27,100	3.229262	.6578234	0	8

c. Method

The multivariate regression models are estimated using the following methodology:

$$Y_{i,t} = \alpha + \beta_1 * X_{i,t} + \beta_2 * Net\ income_{i,t} + \beta_3 * Employment_{i,t} + \beta_4 * Board\ size_{i,t} + \beta_5 * Firm\ age_{i,t} + \beta_6 * Independent\ director_{i,t} + \varepsilon_{it} \quad (1)$$

In the above equation, the subscripts represent different entities: “I” denotes Chinese firms, and “t” represents the time period spanning from 2008 to 2018. The coefficients α and β indicate the parameters to be estimated. The dependent variable, denoted as Y, is influenced by the independent variable X. In accordance with our first hypothesis, the independent variable will be the percentage of females on the board, while the dependent variables will be

ROA and Tobin's Q ratio, respectively. For the second hypothesis, the independent variable will be Females in High Education, while the dependent variables will remain as ROA and Tobin's Q ratio. Similarly, in the context of the third hypothesis, the independent variable will be Males in high Education. The control variables encompass net income, employment, board size, firm age, and the number of independent directors. These variables are included to account for their potential influence on the relationship being examined. Finally, the error term, represented by ε , captures unobserved factors that vary over time and impact the dependent variable.

4. Unveiling the Discoveries: What Happened to Barbie on Board

a. The Data Speaks: Better Board Gender Diversity, for Better Firm Performance

The findings are presented in Table 2, wherein all specifications include year and firm fixed effects to examine the relationship between board gender diversity and firm financial measures while accounting for unobserved time and entity heterogeneity.

In Columns 1 and 2, the dependent variable is ROA. Column 1 regresses the independent variable without additional controls, revealing a significant positive coefficient at the 5% level. In Column 2, control variables are introduced while maintaining the significant positive relationship at the 5% level. For Columns 3 and 4, Tobin's Q is employed as the dependent variable. In Column 3, without controls, a significant association is observed between the proportion of women directors and firm performance at the 1% level. Continuing to Column 4, with controls, a positive effect is still evident and now significant at the 5% level. These results provide empirical support for Hypothesis 1, indicating that increased female representation in the boardroom is associated with improved corporate financial outcomes. Both profitability and valuation metrics demonstrate that better outcomes are linked to boards with greater gender balance.

Table 2: Result for the effect of board gender diversity on firm performance

Hypothesis 1				
Regressor	(1) ROA	(2) ROA	(3) Tobin Q	(4) Tobin Q
Percentage Females	.0029719** (.0014742)	.0029791** (.0014691)	.0026955*** (.0010102)	.0024274** (.000997)
Control	No	Yes	No	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes
Entity Fixed Effect	Yes	Yes	Yes	Yes
_cons	-.034066 (.0353556)	-.0887485 (.0792466)	.2561161*** (.0180266)	.3826021*** (.0484991)
No. of observation	27,184	27,072	27,184	27,072
No. of firms	3,608	3,606	3,608	3,606
R-squared	0.0015	0.0019	0.2828	0.2902

*Note: *, **, and *** indicate significance at the 10%, 5%, and 1% levels respectively. The robust standard error is present in parentheses.*

b. Pride and Prejudice: The Imbalanced and Uncontributed Hurdles for Boardroom Admission

The results presented in Table 3 assess Hypothesis 2, examining the effect of female director education levels on corporate financial outcomes.

Columns 1 and 2 utilize ROA as the dependent variable, with Column 1 estimating the independent variable alone and Column 2 introducing control covariates. Consistently, neither specification demonstrates a statistically significant relationship. Columns 3 and 4 repeat the analysis using Tobin's Q as the performance metric. Again, both the baseline and full model estimations produce insignificant coefficients. These null findings provide empirical support for Hypothesis 2's prediction that directors' education level would not impact firm profitability. Whether considering the direct effect in isolation or controlling for other firm characteristics, no evidence emerges that boards combining female representation and highly educated members influence financial performance measures.

Table 3: Result for the effect of high educated female directors on firm performance

Hypothesis 2				
	(1)	(2)	(3)	(4)
Regressor	ROA	ROA	Tobin Q	Tobin Q
Females in High Education	.0000321 (.0002479)	9.14e-06 (.0002479)	-.0000691 (.0001907)	-.0000453 (.0001888)
Control	No	Yes	No	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes
Entity Fixed Effect	Yes	Yes	Yes	Yes
Constants	.0051965 (.0190754)	-.074182 (.084395)	.3057544*** (.014215)	.4248578*** (.050939)
No. of observation	25,672	25,577	25,672	25,577
No. of firms	3,560	3,558	3,560	3,558
R-squared	0.0013	0.0016	0.2857	0.2929

*Note: *, **, and *** indicate significance at the 10%, 5%, and 1% levels respectively. The robust standard error is present in parentheses.*

Table 4 examines Hypothesis 3, investigating whether boards comprising predominantly male directors with high educational attainment impact firms' financial performance. Columns 1 and 2 ROA as the dependent variable. Column 1 estimates the interacted term in isolation while Column 2 introduces control covariates. Both specifications yield insignificant relationships. Columns 3 and 4 repeat the analysis using Tobin's Q as the performance metric. In this context as well, the baseline and full model estimations produce insignificant results. These findings provide empirical validation for Hypothesis 3's prediction that directors' education backgrounds alone would not influence profitability or valuation outcomes when boards are male-dominated and highly educated.

Table 4: Result for the effect of high educated male directors on firm performance

Hypothesis 3				
Regressor	(1) ROA	(2) ROA	(3) Tobin Q	(4) Tobin Q
Males in High Education	-.0004714 (.0007231)	-.0004593 (.0007268)	.0006093 (.0004067)	.0006066 (.0004064)
Control	No	Yes	No	Yes
Year Fixed Effect	Yes	Yes	Yes	Yes
Entity Fixed Effect	Yes	Yes	Yes	Yes
Constants	.0359593 (.0324463)	-.0334525 (.0825622)	.2663033*** (.0235211)	.390331*** (.052042)
No. of observation	27,184	27,072	27,184	27,072
No. of firms	3,608	3,606	3,608	3,606
R-squared	0.0012	0.0016	0.2815	0.2892

*Note: *, **, and *** indicate significance at the 10%, 5%, and 1% levels respectively. The robust standard error is present in parentheses.*

Figure 2 compares the average percentage of highly educated directors among all female and male directors serving on these company boards. It shows that female directors maintained a higher level of educational qualifications at 68.29%, compared to 63.77% for their male counterparts. Figure 3 then traces the longitudinal trend of these high education rates for both genders over the 11-year study period. While declining annually for both groups, the graphs clearly illustrate that the rate for females with high education consistently exceeded that of males throughout the time horizon under examination.

The declining trends observed for the percentages of males and females with high education backgrounds on corporate boards in Figure 3 provide context for interpreting the insignificant impacts of director education on firm performance found in Tables 3 and 4. Specifically, the lack of a significant relationship could potentially be explained by boards not prioritizing high education levels for directors in recent years, as reflected by the downward slopes in Figure 3, if having highly educated directors does not meaningfully contribute to company outcomes.

Despite this trend, the consistently higher educational qualifications of female directors shown in Figure 3 reflect persisting implicit gender biases in the board selection process. Even as board-level education becomes less material to board composition and company performance, women directors still face relatively elevated standards. This underscores the subtle, yet ingrained nature of unequal expectations faced by female candidates vying for limited board seats at major Chinese corporations, where implicit requirements continue to disadvantage women seeking board representation.

Together, the graphs and regressions provide multi-method evidence of disproportionate educational expectations for female directors. Women's overexpression on this irrelevant dimension highlights the imbalanced hurdles they must surmount for board appointments. It

signals the deeply embedded undercurrents of gender bias in Chinese corporate leadership, despite women’s growing representation.

Figure 1: Male vs Female high education degree percentage

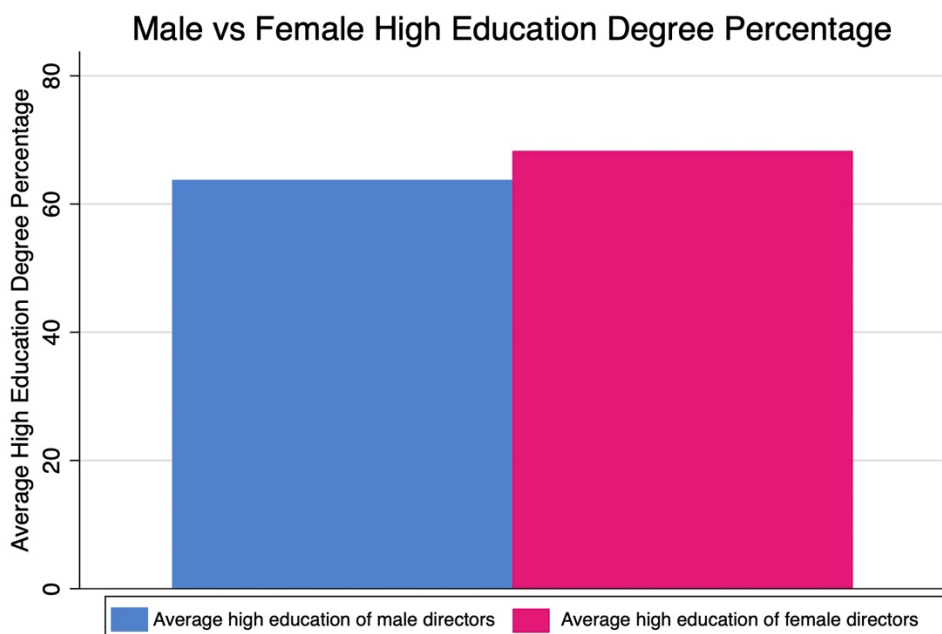
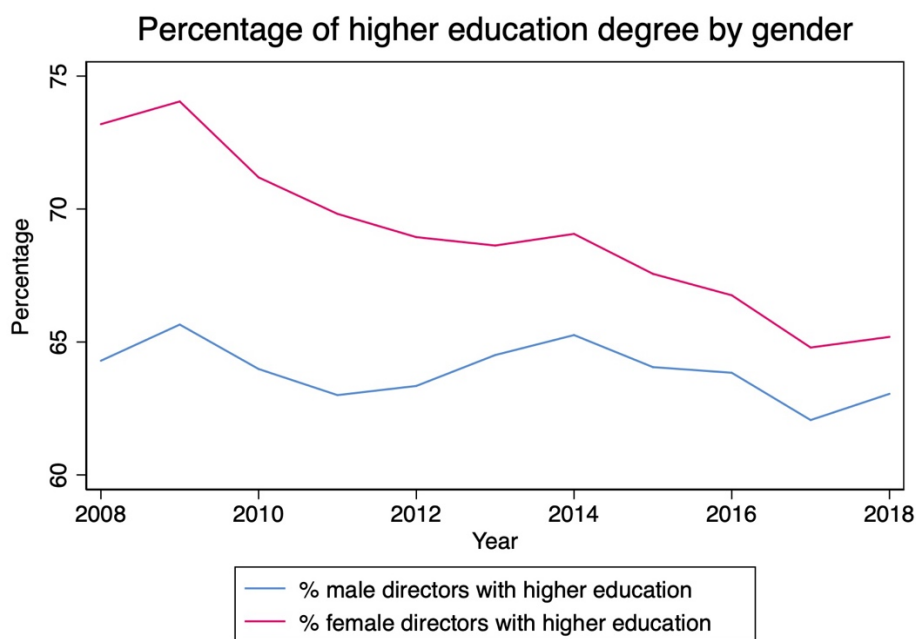


Figure 2: High education degree percentage by gender over the year



5. Conclusion

Originating from the scathing satire of the all-male board of directors in the Barbie film, our research leverages the power of data to explore the circumstances and experiences of female directors in the real world through a socialist feminist lens. Empirical evidence from China demonstrates that appointing female directors has a significantly positive impact on company

performance, which strongly counters questions about women's ability to work and perform competently in senior management positions. Meanwhile, we also uncover the implicit gender discrimination that female directors face higher education requirements for board membership, despite the fact that such stringent standards are proven not to meaningfully influence corporate results.

In recent years, the proportion of female directors in China has increased. However, without policy supports such as *EU Directive on Gender-Balanced Boards*, women in China and many other counties and regions likely confront more latent and systemic gender biases. Through this study, we aim to further reveal women's positive contributions and great potential to business success. And we also hope future research will continue investigating female leadership issues and provide theoretical and empirical support to advocate for women's rights and interests.

Appendices

A. Variables Descriptions and Correlations

Table 1: Variable description

Variable	Definition	Source
ROA	Return on average asset each year. It be calculated as: total profit / total asset.	CSMAR
Tobin Q	Indicates how valuable the assets of a firm are relative to their replacement cost. It is calculated as the market value of assets divided by the replacement value of assets.	CSMAR
Percentage Females	The percentage of females on the corporate board of directors. Used to measure gender diversity.	CSMAR
Females in High Education	The percentage of females on the board that have a postgraduate degree like a Master's or PhD. Measures the educational qualifications of directors	CSMAR
Males in high Education	The percentage of females on the board that have a postgraduate degree like a Master's or PhD. Measures the educational qualifications of directors	CSMAR
Net income	The profit earned by the company after subtracting all expenses and costs from revenues. A key indicator of financial performance.	CSMAR
Employment	Total number of employees in the company. Can indicate company size.	CSMAR
Board size	Total number of directors on the company's board of directors. Impacts board processes and decision making.	CSMAR
Firm age	Number of years since the company was established.	CSMAR
Total independent directors	The total number of independent directors on the board.	CSMAR

Table 2: Correlation for the Hypothesis 1

Regressor	1	2	3	4	5	6	7	8
1. ROA	1.0000							
2. Tobin Q	-0.3728*	1.0000						
3. Percentage Females	0.0053	-0.0027	1.0000					
4. Net income	0.0054	-0.0020	-0.0462*	1.0000				
5. Employment	0.0005	-0.0041	-0.1075*	0.7676*	1.0000			
6. Board size	0.0051	-0.0185*	-0.1708*	0.1950*	0.1940*	1.0000		
7. Firm age	-0.0055	-0.0022	0.0703*	0.0506*	0.0015	0.0237*	1.0000	
8. Independent directors	0.0064	-0.0168*	-0.1472*	0.2133*	0.2444*	0.7926*	0.0246*	1.0000

* $p < 0.05$ was used as the significance level.

Table 3: Correlation for the Hypothesis 2

Regressor	1	2	3	4	5	6	7	8
1. ROA	1.0000							
2. Tobin Q	-0.3728*	1.0000						
3. Females in High Education	-0.0141*	0.0100	1.0000					
4. Net income	0.0054	-0.0020	0.0391*	1.0000				
5. Employment	0.0005	-0.0041	0.0669*	0.7676*	1.0000			
6. Board size	0.0051	-0.0185*	0.1106*	0.1950*	0.1940*	1.0000		
7. Firm age	-0.0055	-0.0022	0.1887*	0.0506*	0.0015	0.0237*	1.0000	
8. Independent directors	0.0064	-0.0168*	0.0999*	0.2133*	0.2444*	0.7926*	0.0246*	1.0000

* $p < 0.05$ was used as the significance level.

Table 4: Correlation for the Hypothesis 3

Regressor	1	2	3	4	5	6	7	8
1. ROA	1.0000							
2. Tobin Q	-0.3728*	1.0000						
3. Males in High Education	-0.0175*	0.0140*	1.0000					
4. Net income	0.0054	-0.0020	0.0566*	1.0000				
5. Employment	0.0005	-0.0041	0.0802*	0.7676*	1.0000			
6. Board size	0.0051	-0.0185*	0.1145*	0.1950*	0.1940*	1.0000		
7. Firm age	-0.0055	-0.0022	0.2529*	0.0506*	0.0015	0.0237*	1.0000	
8. Independent directors	0.0064	-0.0168*	0.1336*	0.2133*	0.2444*	0.7926*	0.0246*	1.0000

* $p < 0.05$ was used as the significance level.

B. Supplementary Regression Results

This table reports additional regression results with the dependent variable mentioned in the main text. The results include the detailed coefficients for all control variables, which were omitted in the main analysis for brevity. Year-fixed effects continue to be included in all specifications; however, the coefficients are omitted here for the same reason as above.

Table 5: Full Regression Output with Control Variables for Hypothesis 1

Hypothesis 1				
Regressor	(1) ROA	(2) ROA	(3) Tobin Q	(4) Tobin Q
Percentage Females	.0029719** (.0014742)	.0029791** (.0014691)	.0026955*** (.0010102)	.0024274** (.000997)
Net income		5.62e-12*** (2.11e-12)		3.98e-12*** (1.02e-12)
Employment		-1.39e-06** (6.28e-07)		-5.98e-06*** (1.06e-06)
Board size		.0071627* (.0042693)		-.021425*** (.0052887)
Firm age		-.0022816 (.0017284)		.0065645*** (.001335)
Independent directors		.0041043 (.0115559)		.0090908 (.0110426)
Year Fixed Effect	Yes	Yes	Yes	Yes
Entity Fixed Effect	Yes	Yes	Yes	Yes
Constants	-.034066 (.0353556)	-.0887485 (.0792466)	.2561161*** (.0180266)	.3826021*** (.0484991)
No. of observation	27,184	27,072	27,184	27,072
No. of firms	3,608	3,606	3,608	3,606
R-squared	0.0015	0.0019	0.2828	0.2902

*Note: *, **, and *** indicate significance at the 10%, 5%, and 1% levels respectively. The robust standard error is present in parentheses.*

Table 6: Full Regression Output with Control Variables for Hypothesis 2

Hypothesis 2				
Regressor	(1) ROA	(2) ROA	(3) Tobin Q	(4) Tobin Q
Females in High Education	.0000321 (.0002479)	9.14e-06 (.0002479)	-.0000691 (.0001907)	-.0000453 (.0001888)
Net income		5.40e-12 (2.16e-12)		3.57e-12 (9.95e-13)
Employment		-1.44e-06 (6.92e-07)		-5.83e-06 (1.10e-06)
Board size		.0088798 (.0043175)		-.0211987 (.0054137)
Firm age		-.0005806 (.0021974)		.0073645 (.0013474)
Independent directors		.0019311 (.0120264)		.0063156 (.0113176)
Year Fixed Effect	Yes	Yes	Yes	Yes
Entity Fixed Effect	Yes	Yes	Yes	Yes
Constants	.0051965 (.0190754)	-.074182 (.084395)	.3057544*** (.014215)	.4248578*** (.050939)
No. of observation	25,672	25,577	25,672	25,577
No. of firms	3,560	3,558	3,560	3,558
R-squared	0.0013	0.0016	0.2857	0.2929

Note: *, **, and *** indicate significance at the 10%, 5%, and 1% levels respectively. The robust standard error is present in parentheses.

Table 7: Full Regression Output with Control Variables for Hypothesis 3

Hypothesis 3				
Regressor	(1) ROA	(2) ROA	(3) Tobin Q	(4) Tobin Q
Males in High Education	-.0004714 (.0007231)	-.0004593 (.0007268)	.0006093 (.0004067)	.0006066 (.0004064)
Net income		5.56e-12*** (2.10e-12)		3.99e-12*** (1.05e-12)
Employment		-1.49e-06** (6.59e-07)		-6.08e-06*** (1.09e-06)
Board size		.00638 (.004295)		-.0219058*** (.0053426)
Firm age		-.0004135 (.0023652)		.0067976*** (.0013792)
Independent directors		.0049766 (.0114117)		.0093887 (.0110728)
Year Fixed Effect	Yes	Yes	Yes	Yes
Entity Fixed Effect	Yes	Yes	Yes	Yes
Constants	.0359593 (.0324463)	-.0334525 (.0825622)	.2663033*** (.0235211)	.390331*** (.052042)
No. of observation	27,184	27,072	27,184	27,072
No. of firms	3,608	3,606	3,608	3,606
R-squared	0.0012	0.0016	0.2815	0.2892

Note: *, **, and *** indicate significance at the 10%, 5%, and 1% levels respectively. The robust standard error is present in parentheses.

References

- Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics*, 94(2), 291–309.
- Ahern, K. R., & Dittmar, A. K. (2012). The changing of the boards: The impact on firm valuation of mandated female board representation. *The quarterly journal of economics*, 127(1), 137-197.
- Alesina, A., & Giuliano, P. (2010). The power of the family. *Journal of Economic growth*, 15, 93-125.
- Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The quarterly journal of economics*, 116(1), 261-292.
- Baysinger, B.D. & Butler, H.N., (1985). Corporate Governance and the Board of Directors: Performance Effects of Changes in Board Composition. *Journal of Law, Economics, & Organization*, 1, 101-124.
- Brahma, S., Nwafor, C., & Boateng, A. (2021). Board gender diversity and firm performance: The UK evidence. *International Journal of Finance & Economics*, 26(4), 5704-5719.
- Burgess, Z., & Tharenou, P. (2002). Women Board Directors: Characteristics of the Few. *Journal of Business Ethics*, 37(1), 39–49.
- Chandler, A. (2016). Women on Corporate Boards: A Comparison of Parliamentary Discourse in the United Kingdom and France. *Politics & Gender*, 12(3), 443-468. doi:10.1017/S1743923X15000574
- Cheng, C. (1996). We choose not to compete: The merit discourse in the selection process, and Asian and Asian American men and their masculinity. *Masculinities in organizations*, 177, 200.
- China National Bureau of Statistics. (2023). Final Statistical Monitoring Report on the Outline for the Development of Chinese Women (2011-2020), retrieved from https://www.stats.gov.cn/sj/zxfb/202302/t20230203_1901316.html
- Canyon, M. J., & He, L. (2017). Firm performance and boardroom gender diversity: A quantile regression approach. *Journal of Business Research*, 79, 198–211. <https://doi.org/10.1016/j.jbusres.2017.02.006>
- Cook, A. and Glass, C. (2014). Above the Glass Ceiling: When are Women and Racial/Ethnic Minorities Promoted to CEO?. *Strategic Management Journal*, 35(7), 1080-1089.
- Cooke, F. L. (2004). Women in management in China: Advances, challenges and strategies. *Asia Pacific Business Review*, 11(2), 143-162.

- Cox, T., Lobel, S., McLeod, P., (1991). Effects of ethnic group cultural differences on cooperative and competitive behavior on a group task. *Acad. Manage. J.* 34 (4), 827–847.
- Darmadi, S. (2013). Board members' education and firm performance: evidence from a developing economy. *International Journal of Commerce and Management*, 23(2), 113-135.
- Dobbin, F., & Kalev, A. (2016). Why diversity programs fail. *Harvard Business Review*, 94(7), 14.
- Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological review*, 109(3), 573.
- Eurostat. (2023). EU women hold third of seats in national parliaments, retrieve from <https://ec.europa.eu/eurostat/web/products-eurostat-news/w/edn-20230308-2>
- Fan, J. P., Wong, T. J., & Zhang, T. (2007). Politically connected CEOs, corporate governance, and Post-IPO performance of China's newly partially privatized firms. *Journal of financial economics*, 84(2), 330-357.
- Gallego-Álvarez, I., García-Sánchez, I. M., & Rodríguez-Dominguez, L. (2010). The influence of gender diversity on corporate performance. *Revista de Contabilidad*, 13(1), 53–88. [https://doi.org/10.1016/S1138-4891\(10\)70012-1](https://doi.org/10.1016/S1138-4891(10)70012-1)
- Green, C. P., & Homroy, S. (2018). Female directors, board committees and firm performance. *European Economic Review*, 102, 19-38.
- Gul, F. A., Srinidhi, B., & Ng, A. C. (2011). Does board gender diversity improve the informativeness of stock prices?. *Journal of accounting and Economics*, 51(3), 314-338.
- Hartmann, H. (1979). The unhappy marriage of Marxism and feminism: Towards a more progressive union. *Capital & Class*, 3(2), 1-33.
- Haynes, K. T., & Hillman, A. (2010). The effect of board capital and CEO power on strategic change. *Strategic management journal*, 31(11), 1145-1163.
- Hillman, A. J., & Dalziel, T. (2003). Boards of Directors and Firm Performance: Integrating Agency and Resource Dependence Perspectives. *The Academy of Management Review*, 28(3), 383–396.
- Hillman, A. J., Cannella, A. A., & Harris, I. C. (2002). Women and Racial Minorities in the Boardroom: How Do Directors Differ? *Journal of Management*, 28(6), 747–763.
- Hillman, A. J., Shropshire, C., & Cannella, A. A. (2007). Organizational Predictors of Women on Corporate Boards. *Academy of Management Journal*, 50(4), 941–952.

- Hinchliffe, E. (2023), Women CEOs run 10.4% of Fortune 500 companies. A quarter of the 52 leaders became CEO in the last year, Fortune, retrieve from <https://fortune.com/2023/06/05/fortune-500-companies-2023-women-10-percent/>
- Ibarra, H. (1997). Paving an Alternative Route: Gender Differences in Managerial Networks. *Social Psychology Quarterly*, 60(1), 91–102. <https://doi.org/10.2307/2787014>
- Jensen, M. C., & Meckling, W. H. (1919). Theory of the firm: Managerial behavior, agency costs and ownership structure. In *Corporate governance* (pp. 77-132). Gower.
- Kabeer, N. (2016). Gender equality, economic growth, and women’s agency: The “endless variety” and “monotonous similarity” of patriarchal constraints. *Feminist economics*, 22(1), 295-321.
- Kılıç, M., & Kuzey, C. (2016). The effect of board gender diversity on firm performance: evidence from Turkey. *Gender in management: An international journal*, 31(7), 434-455.
- Lester, R. H., Hillman, A., Zardkoohi, A., & Cannella Jr, A. A. (2008). Former government officials as outside directors: The role of human and social capital. *Academy of Management Journal*, 51(5), 999-1013.
- Li, C. (2017). China’s new Politburo and Politburo Standing Committee, Brookings. retrieved from <https://www.brookings.edu/articles/chinas-new-politburo-standing-committee/>
- Li, K., Lu, L., Mittoo, U. R., & Zhang, Z. (2015). Board independence, ownership concentration and corporate performance—Chinese evidence. *International Review of Financial Analysis*, 41, 162-175.
- Li, S. et al. (2010). Gender-role egalitarian attitudes among college students in present-day China. *The Journal of Genetic Psychology*, 171(1), 31-44.
- Li, Y., & Zhang, Y. (2019). Female directors and firm performance: Evidence from China. *International Review of Economics & Finance*, 59, 409-426.
- Liu, Y., Wei, Z., & Xie, F. (2014). Do women directors improve firm performance in China? *Journal of Corporate Finance*, 28, 169–184.
- Marinova, J., Plantenga, J., & Remery, C. (2016). Gender diversity and firm performance: Evidence from Dutch and Danish boardrooms. *The International Journal of Human Resource Management*, 27(15), 1777– 1790.
- Matsa, D. A., & Miller, A. R. (2011). Chipping away at the glass ceiling: Gender spillovers in corporate leadership. *American Economic Review*, 101(3), 635-39.
- Miller, T., & Del Carmen Triana, M. (2009). Demographic Diversity in the Boardroom: Mediators of the Board Diversity–Firm Performance Relationship. *Journal of Management Studies*, 46(5), 755–786.

- Mogbogu, O. O. (2016). *Women on the board of directors and their impact on the financial performance of a firm: An empirical investigation of female directors in the United States technology sector*. Illinois State University.
- Peng, M. W. (2004). Outside directors and firm performance during institutional transitions. *Strategic management journal*, 25(5), 453-471.
- Pfeffer, J., & Salancik, G. (2015). External control of organizations—Resource dependence perspective. In *Organizational Behavior 2* (pp. 373-388). Routledge.
- Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology*, 24(1), 1–24. <https://doi.org/10.1146/annurev.soc.24.1.1>
- Sandhu et al. (2021). Blatant bias, benevolent bias, and gender stereotypes of leadership capability in Singapore. *Asian Journal of Social Psychology*, 24, 186-197.
- Sarkar, J., & Sarkar, S. (2009). Multiple board appointments and firm performance in emerging economies: Evidence from India. *Pacific-Basin Finance Journal*, 17(2), 271–293.
- Sarkar, J. & Selarka, E. (2016). Women on board and performance of family firms: evidence from india. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.2905587>
- Siciliano, J. (1996). The relationship of board member diversity to organizational performance. *Journal of Business Ethics*, 15(12), 1313–1320.
- Tate, G., & Yang, L. (2015). Female leadership and gender equity: Evidence from plant closure. *Journal of Financial Economics*, 117(1), 77-97.
- Terjesen, S., & Singh, V. (2008). Female Presence on Corporate Boards: A Multi-Country Study of Environmental Context. *Journal of Business Ethics*, 83(1), 55–63.
- U.S. Bureau of Labor Statistics (2022). Labor Force Statistics from the Current Population Survey, retrieved from <https://www.bls.gov/cps/cpsaat11.htm>
- Wang, D., Cui, L., Vu, T., & Feng, T. (2022). Political capital and MNE responses to institutional voids: The case of Chinese state-owned enterprises in Africa. *Organization Studies*, 43(1), 105-126.
- Westphal, J. D., & Milton, L. P. (2000). How Experience and Network Ties Affect the Influence of Demographic Minorities on Corporate Boards. *Administrative Science Quarterly*, 45(2), 366–398.
- World Bank. (2023). China Overview: Development news, research, data. Retrieved from <https://www.worldbank.org/en/country/china/overview>
- Young, I.M. (1980). Socialist Feminism and the Limits of Dual Systems Theory. *Socialist Review*, 10(2/3), 169-188.

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Voluntary Assisted Dying (VAD) in Indonesia: Can It Follow Australia's Footsteps?

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Abstract

This paper investigates the differing approaches to Voluntary Assisted Dying (VAD) in Australia and Indonesia, with a focus on the legal structures and motivations underlying each nation's stance. While Australia has embraced VAD, enacting laws in six states, Indonesia faces ongoing challenges rooted in cultural and religious beliefs, resulting in the prohibition of VAD. The paper scrutinises Australia's rationale for human rights, emphasising adherence to the International Covenant on Civil and Political Rights (ICCPR), and explores the legal framework through key cases and legislative processes. On the other side, Indonesia's legal landscape, shaped by Pancasila principles and religious beliefs, prohibits VAD under Article 344 of the Criminal Code. The paper contemplates the potential for future VAD legalisation in Indonesia, suggesting avenues such as consultations with religious leaders, judicial review, and legal amendments, while emphasising the importance of honoring international human rights commitments. The conclusion underscores the unique cultural and legal challenges Indonesia faces in pursuing VAD legalisation, different from Australia's approach.

Keywords: Voluntary Assisted Dying (VAD), Human Rights, Indonesia, Australia

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Introduction

Voluntary Assisted Dying (VAD) delineates a structured framework that facilitates individuals in the advanced stages of severe, debilitating illnesses, marked by intolerable suffering, to solicit medical intervention for the purposeful cessation of their lives. Upon satisfying specific criteria and adhering to requisite legal processes, individuals are afforded the option to either self-administer or secure the prescription of the specified substance for VAD from a duly licensed physician. The decision-making process places a paramount emphasis on individual autonomy, with any external influences, pressures, or coercion explicitly deemed illicit and ethically unsound. This ethical construct seeks to provide a compassionate alternative for those contending with protracted affliction, navigating the intricate intersection of personal autonomy and the stringent legal and ethical mandates governing this nuanced terminological choice (Health.nsw.gov.au, 2023).

VAD legislation is presently operational in all six Australian states: Victoria, Western Australia, Tasmania, South Australia, Queensland, and New South Wales, instigating pervasive nationwide debates. Remarkably, the Northern Territory and the Australian Capital Territory persist in proscribing VAD, instigating comprehensive deliberations concerning ethical, human rights, and government regulatory considerations. Anticipated to endure as a prominent issue, this situation has catalysed extensive discourse within the realms of Australian public and political arenas. The multifaceted nature of these debates underscores the nuanced interplay between legal, ethical, and societal dimensions surrounding end-of-life choices, emphasising the imperative for comprehensive and informed public and political engagements on this intricate matter (Health.nsw.gov.au, 2023). Contrastingly, VAD, often referred to as 'Euthanasia', stands proscribed within the legal framework of Indonesia. Indonesian jurisprudence exhibits a conspicuous absence of recognition or validation for the underpinning motivations associated with VAD. Specifically, Article 344 of the Indonesian Criminal Code categorically precludes the deliberate termination of human life through this modality. This legal stance underscores the nonalignment of Indonesian law with the permissiveness observed in certain Australian jurisdictions, reflecting a distinctive legal paradigm. The proscription of VAD in Indonesia invokes complex ethical and moral considerations, shaping a unique discourse within the broader global dialogue on end-of-life decisions (Syahroel, 2022, p. 357).

This paper seeks to examine the divergent trajectories of Voluntary Assisted Dying (VAD) frameworks in Australia and Indonesia, accentuating the legal intricacies and motivational underpinnings that delineate Australia's widespread embracement of VAD in stark contrast to Indonesia's enduring complexities and reluctance regarding this end-of-life prerogative. The analysis will extend to probing the prospects for prospective VAD legalisation in Indonesia, encapsulating a comprehensive exploration of the legal, cultural, and ethical dimensions that contribute to the distinctive VAD landscapes in these two jurisdictions.

Statement of the Problem

This paper seeks to address several critical questions:

1. In what manner is Voluntary Assisted Dying (VAD) perceived within the human rights framework in Australia?
2. What legal frameworks govern the process of legislating VAD in Australia, encompassing the delineation of parameters and procedural intricacies involved in its enactment?

3. What factors contribute to the regulatory constraints on VAD within the legal framework of Indonesia, with particular emphasis on ethical considerations, cultural perspectives, and legal complexities?
4. What legal foundations underlie the constraints on VAD within the Indonesian jurisdiction, highlighting statutory provisions and their ethical and cultural underpinnings?
5. To what extent is the prospect of legalising VAD feasible in Indonesia, and could the Australian model serve as a viable paradigm for potential adoption, considering the legal, cultural, and ethical dimensions inherent in both jurisdictions?

Purpose of the Study

This study is designed to accomplish several key objectives. Firstly, it aims to investigate the alignment of Voluntary Assisted Dying (VAD) with the principles of human rights within the Australian context. Through this exploration, the research seeks to offer a nuanced understanding of how the practice of VAD intersects with ethical considerations and upholds the principles of individual autonomy in the context of end-of-life choices.

Additionally, the study endeavours to analyse the intricate legal frameworks that underpin the legislation of VAD in Australia, emphasising the statutory structures and procedural intricacies inherent in its legislative enactment. Furthermore, the research will scrutinise the diverse factors contributing to the regulatory constraints on VAD in Indonesia, encompassing ethical, cultural, and legal dimensions. By examining the legal foundations of VAD restriction in Indonesia, the study aims to elucidate the statutory provisions and their ethical and cultural underpinnings.

Lastly, the research will explore the feasibility of Indonesia adopting VAD, considering the Australian model as a potential framework. This entails a comprehensive evaluation of the legal, cultural, and ethical dimensions inherent in both jurisdictions to ascertain the practicality and challenges associated with such adoption. Through these inquiries, the study aims to contribute valuable insights to the discourse on end-of-life choices in Australia and Indonesia.

Methodology

Type of Research, Nature of Research, and Research Approach

Type of Research

This research is juridical-normative, delving into legal doctrines and principles (Sugiyono, 2010, p. 2) by examining existing literature materials such as books, journals, and relevant regulations. The juridical-normative method is chosen due to the research object and purpose, focusing on the study on a distinct Voluntary Assisted Dying (VAD) regulation in Australia and Indonesia.

Nature of Research

The research is descriptive, systematically portraying specific objects and describing related aspects by presenting facts or characteristics of the population in a particular field accurately and factually (Azwar, 2011, p. 7).

Research Approach

The applied approach is legislative. The legislative approach involves examining all case laws and legislations related to the legal issue under consideration (Marzuki, 2010, p. 93). This includes dissecting regulations and literature related to the legal issue at hand, examining the legal issues present in legislation, and reviewing literature related to the main discussion.

Data Sources

The data sources are secondary and consist of legal literature materials and documents related to the presented issues. Primary legal sources include legal regulations binding in the Australian Legal System such as Case Laws and Legislations, as well as legal regulations binding in the Indonesian Legal System such as the Indonesian Criminal Code. Additionally, secondary legal sources, such as books and literature, are utilised. Tertiary legal sources, like legal dictionaries and other relevant documents, provide guidance and explanations for primary and secondary legal materials.

Data Collection Techniques

The primary data collection technique employed in this research is a literature review, where the author collects and discusses legal materials through primary, secondary, and tertiary legal sources.

Data Analysis

The data analysis method utilised is qualitative, aiming to provide a clear understanding of the legal, ethical, and cultural dimensions surrounding the Voluntary Assisted Dying (VAD) in Australia and Indonesia. The qualitative method is chosen to comprehend and interpret the truth found in the data systematically.

Voluntary Assisted Dying (VAD) in Australia

Human Right Rationales

Australia, a signatory to seven pivotal human rights treaties, particularly draws from the International Covenant on Civil and Political Rights (ICCPR) to outline its responsibilities regarding Voluntary Assisted Dying (VAD). The ICCPR, ratified by Australia on August 13, 1980, serves as a cornerstone for its obligations in this domain (Zdenkowski, 1996, p. 7).

The practice of VAD may trigger the following rights as outlined in the ICCPR:

- *Article 7 (Freedom from cruel, inhuman or degrading treatment)*
Article 7 obliges States to proactively prevent severe mistreatment within their jurisdiction. State's prohibition of VAD could result in subjecting individuals to cruel, inhuman, or degrading treatment (Humanrights.gov.au, 2016).
- *Article 17 (Respect for private life)*
Article 17 safeguards personal autonomy, allowing individuals to pursue self-fulfillment through actions that do not infringe upon the freedom of others (Nowak, 2005, p. 388).

The right to privacy encompasses bodily autonomy, extending to actions that may impact one's own health (Nowak, 2005, p. 389). Refusals of patient requests for VAD, despite their explicit wishes, can be seen as privacy violations (Nowak, 2005, p. 389).

Drawing upon human rights principles, Australia has legalised VAD to balance individual autonomy with societal interests. Nevertheless, VAD legalisation in Australia encountered significant challenges, as discussed in the following section.

Legal Framework of Voluntary Assisted Dying (VAD) Legalisation in Australia

Case Laws

The key cases regarding Voluntary Assisted Dying (VAD) in the common law countries under the British Empire including Australia, are:

- *R v Adams (1957)*
A landmark British legal case introduced the consequential 'double effect' principle in medical ethics, offering a vital ethical framework for physicians. This principle grants doctors the latitude to administer treatment aimed at alleviating pain and suffering in severely ill patients without facing charges of murder, even if an unintended consequence is the patient's passing. The 'double effect' principle, while acknowledging the unintended outcomes, underscores the paramount significance of palliative care in mitigating the profound suffering of patients. Importantly, this legal precedent not only safeguards medical practitioners from legal repercussions but also emphasises the ethical imperative of prioritising humane care. By recognising the complexities inherent in end-of-life decisions, it strikes a delicate balance between compassionate healthcare practices and the inherent uncertainties associated with medical interventions in severe cases. This legal and ethical construct reflects a societal commitment to navigating the moral complexities surrounding terminal illnesses with empathy and ethical consideration (Ipsaloquitur.com, n.d.-b).

- *R v Cox (1992)*
Dr. Cox faced charges of attempted murder for administering a potassium chloride injection to a terminally ill arthritis patient in pursuit of pain relief. The pivotal concern in the case revolved around Dr. Cox's intent. Asserting that his primary objective was pain relief, he invoked the doctrine of double effect, which typically absolves doctors when a patient's death is an unintended consequence of pain relief efforts. However, the jury's conviction underscored a crucial nuance: the doctrine does not apply when the primary intent is to terminate a patient's life. This legal precedent emphasises the paramount importance of pain relief in end-of-life care. While acknowledging the complexities surrounding the unintended consequences of medical interventions, the case highlights the imperative of transparent intent, especially in ethically sensitive scenarios where medical actions may have profound and unintended outcomes (Ipsaloquitur.com, n.d.-a).

Legislation

Voluntary Assisted Dying (VAD) falls under state jurisdiction as it is outside the legislative powers of the Federal Parliament under Section 51 of the Australian Constitution. The Northern Territory initially introduced VAD through the Rights of the Terminally Ill Act

(NT) between March 1996 and 1997. Nevertheless, the Australian Government exercised its power under Section 122 of the Australian Constitution to enact the Euthanasia Laws Act 1997, effectively invalidating the Northern Territory Act and bringing an end to the Northern Territory's voluntary assisted dying law (Qut.edu.au, 2023). The Euthanasia Laws Act 1997 also amended the Australian Capital Territory Act 1988 (ACT act) that prevent legislation to allow VAD (*Australian Capital Territory (Self-Government) Act 1988*, 1988, p. 23).

Over the next two decades, there were nine attempts to repeal the Euthanasia Laws Act of 1997 through various bills introduced in Parliament. It's crucial to mention that none of these repeal bills progressed to the voting stage in either parliamentary chamber (Ferris, 2022, p. 3). In 2018, Senator David Leyonhjelm reintroduced a bill in the Senate to eliminate the federal ban on Voluntary Assisted Dying (VAD), but this bill, too, was rejected by the Senate (Karp, 2018).

While VAD remains restricted in the Northern Territory (NT) and the Australian Capital Territory (ACT), the other six states in Australia have acknowledged the right to VAD. The states where VAD has been legalised and is in effect include Victoria (2019), Western Australia (2021), Tasmania (2022), Queensland (2023), and South Australia (2023). New South Wales, the final state to pass assisted dying legislation, is scheduled to implement it on November 2023 (Healthdirect.gov.au, n.d.).

While VAD is legal, strict eligibility criteria are consistent across states. To qualify, an individual must be an adult with Australian citizenship or permanent residency in the state for at least 12 months, demonstrate decision-making capacity, have a diagnosed condition expected to cause death within a specified timeframe, experience intolerable suffering due to an advanced condition, and maintain a persistent request for VAD (Healthdirect.gov.au, n.d.). These stringent VAD criteria maintain high medical ethical standards, ensuring it's employed only in appropriate situations. This balances individual rights with ethical and humanitarian considerations.

Restriction of Voluntary Assisted Dying (VAD) in Indonesia

The Belief that God is the Sole Taker of Life

Pancasila, meaning 'Five Principles', forms the fundamental basis of Indonesia's legal framework. These principles, expressed in Indonesian, guide all law-making and statute creation in the government and parliament, as Indonesia follows the civil law system. The primary principle in Pancasila relevant to VAD is the belief in the One and Only God (Morfit, 1981, p. 840). It signifies the acknowledgment of a belief in the Supreme God, the Creator of the natural world. In the context of VAD, when seen through the lens of the First Principle of Pancasila, the practice of VAD in Indonesia sharply contradicts the core essence of the diverse religious beliefs held in the nation (Marasabessy, 2014).

In terms of religions, VAD is discouraged in the officially recognised religions in Indonesia such as Islam, Protestantism, Catholicism, Hinduism, Buddhism, and Confucianism. These faiths emphasise the sanctity of human life as a divine gift and believe that the duration of life is determined by God. Thus, VAD is universally rejected within these religions, as they advocate leaving life-and-death matters to a higher power (Marwaha, 2006). These principles form the basis for a statute in Indonesia regarding the restriction of VAD, which will be discussed in the next section.

Legal Framework of Voluntary Assisted Dying (VAD) in Indonesia

Indonesia operates under a civil law system, which means that all actions are regulated or guided by statutory laws. VAD is no different in this regard. As previously mentioned, VAD contradicts the fundamental legal norms and principles, such as Pancasila, in Indonesia, one of which is rooted in religious teachings. Given that none of the six official religions recognised in Indonesia permit VAD, it follows that the statutory regulations established by the president together with the parliament should also prohibit VAD.

The legal rules pertaining to the prohibition of VAD in Indonesia are outlined in Chapter XIX on Crimes Against Life in Article 344 of the Indonesian Criminal Code, which states, “Anyone who takes another person’s life at the request of the person himself, which is clearly stated with sincerity, is threatened with a maximum imprisonment of twelve years.” This implies that this regulation prohibits all means of terminating human life, even if it is carried out upon the request of the individual (Atlantispress, 2023).

Even though Indonesia does not follow the *stare decisis* principle (doctrine of precedent) (Khairi, 2016), there are at least two notable cases in Indonesia that emphasise the restriction of VAD according to the Article 344 of the Indonesian Criminal Code.

First, the story of Hasan Kusuma. On October 22, 2004, Hasan Kusuma submitted a request to the Central Jakarta District Court for permission to euthanise his wife, Again Isna Nauli. His wife had been in a coma for two months and faced difficulties in paying for medical care. It was reported that, at that time, the Central Jakarta District Court rejected the euthanasia request (Hukumonline.com, 2014).

The second story pertains to Ignatius Ryan Tumiwa. A postgraduate graduate from a prestigious university, he wanted to end his life through lethal injection. However, his request was hindered by Article 344 of the Indonesian Criminal Code, which threatens doctors or other medical personnel who assist a patient in ending their life. Through his lawyer, Ryan submitted a request for the judicial review of this article to the Indonesian Constitutional Court. In August 2014, his request was withdrawn. The reason was that Ryan had found the motivation to embrace life once again. The withdrawal of the request was positively received by the constitutional judges who examined this petition (Hukumonline.com, 2014).

Considering Voluntary Assisted Dying (VAD) Legalisation in Indonesia Based on Australia’s Model

VAD has seen notable advancement in Australia, with legalisation in six of its states, as we previously discussed. In contrast, Indonesia has encountered hurdles in the process of legalising VAD, primarily because of religious and legal disparities. Nonetheless, it is worth to explore whether Indonesia might entertain the idea of adopting a framework similar to that of Australia.

Indonesia should primarily engage in consultations with religious leaders before considering the legalisation of VAD. Unlike Australia, where VAD is approached from a human rights perspective, Indonesia consistently grounds its legal regulations in religious principles. This aligns with Indonesia’s ideology, Pancasila, which places religious faith as the utmost priority.

Second, because Indonesia follows a civil law system, if it wishes to enact or legalise VAD, there are two possible avenues:

a. Seeking the Repeal of Article 344 of the Indonesian Criminal Code through a Judicial Review Process in the Constitutional Court

As mentioned earlier, Ignatius Ryan Tumiwa attempted this approach, but regrettably, he withdrew his request for a Constitutional Court review, leaving Article 344 of the Indonesian Criminal Code in effect without a final binding decision. Despite this, there remains the possibility for someone to file a new request for a future review to repeal this article. The judicial review process in Indonesia parallels that of Australia. The High Court of Australia can also adjudicate reviews of federal or state laws if they are believed to contravene the constitution (Peo.gov.au, n.d.).

b. Proposing an Amendment to the Indonesian Criminal Code Particularly Article 344

The second approach entails amending the law, a responsibility shared by the parliament and the president. These amendments should also take into account the desires of the public and religious leaders.

The process shares similarities with that of Australia, where the deliberation of legal amendments takes place in parliament. However, the notable difference lies in Australia's use of a bicameral system, comprising both an upper house and a lower house (Parliament.act.gov.au, n.d.), which implies that the law must undergo debate and approval in both houses in Australia. In contrast, Indonesia operates under a unicameral system, where discussions occur in a single chamber.

Thirdly, Indonesia should factor in international human rights considerations when legalising VAD. Much like Australia, Indonesia is a party to human rights conventions such as the ICCPR (Internet.ohchr.org, n.d.). Therefore, it's crucial for Indonesia to uphold its international obligations and align its standards when crafting regulations, especially in the context of VAD. Indonesia can also consult with international organisations and, if possible, cooperate with Australia in VAD legalisation deliberations.

Conclusion

The examination of Voluntary Assisted Dying (VAD) frameworks in Australia and Indonesia reveals divergent trajectories shaped by legal, ethical, cultural, and religious considerations. In Australia, VAD is perceived within the human rights framework as an embodiment of individual autonomy, compassion, and respect for personal choice in end-of-life decisions. Legal frameworks governing VAD in Australia have evolved through landmark case laws and state legislation, highlighting a delicate balance between individual rights and societal interests.

Conversely, Indonesia's regulatory constraints on VAD are deeply entrenched in religious beliefs, particularly the principle of acknowledging God as the sole taker of life, enshrined in Pancasila. The Indonesian Criminal Code explicitly prohibits VAD, reflecting the broader societal and cultural context that prioritises religious values over individual autonomy in end-of-life decisions.

Despite these disparities, the feasibility of legalising VAD in Indonesia, modeled after the Australian framework, remains a complex and challenging endeavor. Any prospective

legislative reforms in Indonesia would necessitate comprehensive consultations with religious leaders, considerations of international human rights obligations, and potential amendments to existing legal frameworks. Moreover, the distinct legal systems and cultural contexts between Australia and Indonesia further underscore the need for tailored approaches to VAD legalisation that respect each country's unique socio-cultural landscape.

In essence, while Australia's widespread embracement of VAD reflects a commitment to individual autonomy and compassion in end-of-life care, Indonesia's enduring complexities and reluctance towards VAD underscore the intricate interplay between legal, ethical, cultural, and religious dimensions. Moving forward, any discussions on the prospects for VAD legalisation in Indonesia should navigate these complexities with sensitivity, inclusivity, and a nuanced understanding of diverse perspectives, ultimately aiming to uphold both individual rights and societal values.

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References

- Atlantispress. (2023). Juridical Analysis of Euthanasia (Right to Death) Based on Article 344 of Indonesian Criminal Code and Law Number 39/1999 Concerning Human Rights.
- Australian Capital Territory (Self-Government) Act 1988. (1988). 23.
- Azwar, S. (2011). Metode Penelitian [Research Methodology]. Pustaka Pelajar.
- Ferris, L. (2022). Parliament of Australia, Restoring Territory Rights Bill 2022 (Digest No.5, 2022-23, 3 August 2022).
- Healthdirect.gov.au. (n.d.). Voluntary Assisted Dying. Health Direct. Retrieved January 15, 2024, from <https://www.healthdirect.gov.au/voluntary-assisted-dying>
- Health.nsw.gov.au. (2023, June 5). Voluntary Assisted Dying. New South Wales Government. <https://www.health.nsw.gov.au/voluntary-assisted-dying/Pages/voluntary-assisted-dying-in-NSW.aspx>
- Hukumonline.com. (2014). Eutanasia Bertentangan dengan UUD 1945, HAM, dan Pancasila. 18. Hukumonline.com
- Humanrights.gov.au. (2016, May). Euthanasia, Human Rights and the Law. Australian Human Rights Commission. <https://humanrights.gov.au/our-work/age-discrimination/publications/euthanasia-human-rights-and-law#fnB239>
- Internet.ohchr.org. (n.d.). Ratification Status for Indonesia. United Nations Human Rights Treaty Bodies. Retrieved January 15, 2024, from https://tbinternet.ohchr.org/_layouts/15/TreatyBodyExternal/Treaty.aspx?CountryID=80&Lang=EN
- Ipsaloquitur.com. (n.d.-a). R v Cox Crown Court. Ipsa Loquitur. Retrieved January 15, 2024, from <https://ipsaloquitur.com/criminal-law/cases/r-v-cox>
- Ipsaloquitur.com. (n.d.-b). R v Dr Bodkins Adam Crown Court. Ipsa Loquitur. Retrieved January 15, 2024, from <https://ipsaloquitur.com/criminal-law/cases/r-v-dr-bodkins-adams>
- Karp, P. (2018, August 15). Euthanasia Bill Defeated in the Senate after Senators Reverse Position. The Guardian. <https://www.theguardian.com/australia-news/2018/aug/15/euthanasia-bill-in-doubt-as-two-senators-reverse-position>
- Khairi, M. (2016, April 29). Indonesian Legal Review: Language Law. SSEK. <https://ssek.com/blog/indonesian-legal-review-language-law/#:~:text=It%20is%20also%20to%20be,bound%20by%20previous%20court%20decisions>
- Marasabessy, M. A. (2014, August 14). Eutanasia Bertentangan dengan UUD 1945, HAM, dan Pancasila. Hukum Online. <https://www.hukumonline.com/berita/a/eutanasia-bertentangan-dengan-uud-1945-ham-dan-pancasila-lt53ec87bad54c6/>

- Marwaha, S. B. (2006). *Colors of Truth Religion, Self and Emotions: Perspectives of Hinduism, Buddhism, Jainism, Zoroastrianism, Islam, Sikhism and Contemporary Psychology*. Concept Publishing.
- Marzuki, P. M. (2010). *Penelitian Hukum [Legal Research]*. Kencana.
- Morfit, M. (1981). *Pancasila: The Indonesian State Ideology According to the New Order Government*. University of California Press, 21(8), 840.
- Nowak, M. (2005). *UN Covenant on Civil and Political Rights: CCPR Commentary (2nd rev)*. NP Engel.
- Parliament.act.gov.au. (n.d.). *Australian Levels of Government*. Legislative Assembly for the Australian Capital Territory. Retrieved January 15, 2024, from <https://www.parliament.act.gov.au/visit-and-learn/resources/factsheets/australian-levels-of-government#:~:text=The%20Federal%20Parliament%20is%20bicameral,individual%20electorates%20all%20around%20Australia>
- Peo.gov.au. (n.d.). *What Is Judicial Review?* Parliamentary Education Office. Retrieved January 15, 2024, from <https://peo.gov.au/understand-our-parliament/your-questions-on-notice/questions/what-is-judicial-review/#:~:text=A%20person%20seeking%20to%20obtain,power%20to%20make%20the%20decision>
- Qut.edu.au. (2023). *Voluntary Assisted Dying*. Queensland University of Technology. <https://end-of-life.qut.edu.au/assisteddying>
- Sugiyono. (2010). *Metode Penelitian hukum Kuantitatif, Kualitatif, dan R&D [Methods of Legal Research: Quantitative, Qualitative, and R&D]*. Alfabeta.
- Syahroel, A. (2022). *Juridical Analysis of Euthanasia (Right to Death) Based on Article 344 of Indonesian Criminal Code and Law Number 39/1999 Concerning Human Rights*. *Proceedings of the International Conference on Business Law and Local Wisdom in Tourism (ICBLT 2022)*, 357.
- Zdenkowski, G. (1996). *Human Rights and Euthanasia*. Research Paper, Australian Human Rights and Equal Opportunity Commission, 7.

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*Examining the Relationship Between School Climate and Job Satisfaction With
Teacher's Autonomy as a Mediator*

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Abstract

The research on teachers' job satisfaction has always been a critical issue in the development of the educational environment. In this study, it adopts a perspective focusing on the working environment of teachers to investigate the mediating factors influencing job satisfaction among 3,855 middle school teachers in Taiwan, with a primary focus on teacher autonomy. This research method was adopted secondary data analysis. The data source is the 2018 Teaching and Learning International Survey (TALIS), which includes regression-related variables for discipline and innovation in the working environment, as well as teacher job satisfaction. The study uses simple mediation model and regression analysis contributes to the main thread of this study in several dimensions. First, there is a correlation between job satisfaction when the working environment is disciplinary and the performance of teacher job satisfaction when the working environment is innovative, providing support for the theory. When teachers have more autonomy, both the disciplinary and innovation in the working environment influence teacher job satisfaction. Second, the Sobel (goodman) test to determine whether the effect of the independent variable: climate-disciplinary, climate-innovation, after including the mediator: teacher autonomy in the model. Finally, the findings emphasize the critical role of teacher autonomy in shaping teachers' job satisfaction, which can be of significance to policymakers.

Keywords: School Climate, Job Satisfaction, Teacher Autonomy, Middle School Teachers, TALIS (Teaching and Learning International Survey)

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Introduction

This study explores the complex relationship between school climate and teacher job satisfaction in Taiwan, emphasizing the mediating role of teacher autonomy. Using data from the 2018 Teaching and Learning International Survey (TALIS), it examines how various aspects of school environments affect teacher satisfaction. An initial interest was sparked by observing a colleague's shift from a highly regulated to a more autonomous teaching environment, leading to a broader investigation of how autonomy impacts job satisfaction.

Global studies, such as those by Skaalvik and Skaalvik (2011), show that reduced autonomy and restrictive school climates are linked to teacher dissatisfaction, adversely affecting retention and student outcomes. This issue is particularly relevant in Taiwan, where educational reforms to enhance teacher autonomy and promote innovation have lagged. This research aims to determine how increased autonomy within a supportive school climate can improve teacher job satisfaction and address widespread teacher dissatisfaction affecting educational systems worldwide.

Literature Review

Introduction to Teacher Job Satisfaction

Teacher job satisfaction is a critical component in the educational ecosystem, influencing teacher retention, student performance, and the overall quality of education (Skaalvik and Skaalvik, 2011). Various factors contribute to job satisfaction among teachers, including but not limited to work environment, professional relationships, autonomy, and recognition (Collie et al., 2012).

School Climate and Its Impact

School climate, defined as the quality and character of school life, encompasses norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures (Cohen et al., 2009). A positive school climate is associated with higher teacher satisfaction, improved student achievement, and reduced teacher turnover (Thapa et al., 2013). However, the aspects of school climate, such as disciplinary practices and innovative environments, can have differing impacts on teacher satisfaction.

The Role of Teacher Autonomy

Teacher autonomy, the extent to which teachers can make independent decisions about their teaching practices and classroom management, is another significant factor affecting job satisfaction (Pearson and Moomaw, 2005). Autonomy is linked to higher levels of job satisfaction, as it empowers teachers and fosters a sense of professional efficacy and ownership over their work (Friedman, 2000).

Mediating Effects of Autonomy

Recent studies have begun to explore the mediating role of autonomy in the relationship between school climate and job satisfaction (Skaalvik and Skaalvik, 2009). These studies suggest that the impact of school climate on job satisfaction might be partially mediated by

the level of autonomy teachers' experience, implying that even in less favorable climates, high autonomy can sustain or enhance job satisfaction.

Empirical Gaps and the Current Study

Despite the acknowledged importance of these factors, gaps remain in our understanding of how they interact, particularly in diverse educational settings. The current study addresses these gaps by employing a comprehensive analytical approach, including regression analysis and Sobel-Goodman mediation tests, to elucidate the direct and mediated relationships between school climate, autonomy, and job satisfaction.

In reviewing the literature related to this study, it's crucial to synthesize the key findings from different sources and elucidate how they inform and enrich the theoretical and methodological foundation of the current research:

Integration and Analysis of Literature Review

Importance of Teacher Job Satisfaction

Skaalvik and Skaalvik (2011) highlighted the impact of teacher job satisfaction on teacher retention, student performance, and overall educational quality. This viewpoint provides a foundation for the current study, positing job satisfaction as an indispensable component of the educational ecosystem.

Impact of School Climate on Job Satisfaction

According to Cohen et al. (2009), school climate encompasses teaching and learning practices, norms, goals, among others. Thapa et al. (2013) showed that a positive school climate correlates with higher teacher satisfaction. These insights help understand how school climate affects teacher job satisfaction and support the study's exploration of how disciplinary and innovative climates distinctly impact satisfaction.

The Role of Teacher Autonomy

Pearson and Moomaw (2005) examined how teacher autonomy affects job satisfaction, emphasizing the empowerment and professional pride it brings to teachers. This bolsters the theoretical groundwork for the current study, which examines autonomy as a mediating variable affecting satisfaction.

The Mediating Role of Autonomy

Recent studies, such as those by Skaalvik and Skaalvik (2009), have begun to examine autonomy's mediating role in the relationship between school climate and job satisfaction. These studies indicate that even in less favorable climates, high autonomy can maintain or increase job satisfaction. This provides theoretical support for the mediation analysis in the current study and grounds for considering autonomy as a regulatory variable in decision-making.

Relevance to the Current Study

The current study applies the theories and findings from the literature to the context of middle school teachers in Taiwan using data from the 2018 TALIS. Specifically, it applies the concept of autonomy to the analysis of mediating effects, exploring how it modulates the influence of disciplinary and innovative school climates on teacher job satisfaction.

By integrating different research outcomes and applying them to the teacher population in Taiwan, the current study enriches the understanding of the interplay between school climate, autonomy, and job satisfaction.

An innovation of this study is the empirical confirmation of these relationships in the Taiwanese educational context, which has direct implications for designing targeted policies and management strategies to improve teacher satisfaction.

The findings of the current study are consistent with the conclusions of prior literature and further underscore the importance of teacher autonomy in enhancing job satisfaction, suggesting broader management and policy implications. These insights are invaluable for education policymakers and school administrators.

Methodology

This study employs a holistic analytical framework, utilizing regression analysis to probe the relationship between school climate—encompassing disciplinary and innovative aspects—and teacher job satisfaction, with a lens on teacher autonomy as a mediator. The dataset includes 3,855 middle school teachers in Taiwan, ensuring a diverse representation.

The research design employed in this dissertation is a cross-sectional study that hinges on the analysis of secondary data to unravel the determinants of job satisfaction amongst educators. The empirical investigation, helmed by the research team Sobel-Goodman, delves into a comprehensive dataset harvested from the 2018 Teaching and Learning International Survey (TALIS). This rich dataset encompasses responses from 3,855 middle school teachers based in Taiwan, offering a panoramic view of the professional milieu that shapes their job satisfaction. The study meticulously dissects various facets of the teachers' working environment, with a concentrated lens on disciplinary and innovative variables within the school's ambit and their correlated effects on job satisfaction. A suite of variables pertinent to the study—teacher job satisfaction, autonomy, workload, self-efficacy, and the climates of discipline and innovation—were meticulously extracted from the TALIS dataset, underpinning the analytical framework of this research. In the analytical landscape of this dissertation, regression analysis serves as the primary tool to dissect the interplay between the meticulously chosen variables, casting a light on the nuanced interdependencies that shape the educational environment. Central to this methodological voyage is the examination of teacher autonomy's mediating role—a construct representing the teachers' latitude in decision-making and their independence in pedagogical choices—navigating through the dynamics of school climate and its consequent effect on job satisfaction.

Operationalization of variables has been executed with precise definitions to ensure clarity and measurement fidelity. The independent variables encompass various dimensions of school climate, specifically the disciplinary climate and the climate of innovation, pivotal in sculpting the educational milieu. Teacher autonomy, the mediator variable in this study, is

quantified by the degree of decision-making capacity and independence as reported by the teachers themselves. The dependent variable, teacher job satisfaction, is quantified through a composite score that encapsulates the overall satisfaction and contentment with the multitude of facets associated with their professional roles. This structural equation of variables forms the backbone of the study's quest to uncover the layers of influence within the educational domain.

Variables	N	Mean (%)	Std	Min	Max
Gender	3,835				
Female	2,606	64.62			
Male	1,229	35.38			
Educational level	3,835				
Bachelor and below	2,478	67.95			
Master and above	1,357	32.05			
Teacher's Job Satisfaction	3,804	12.02	1.83	4.85	12.18
Teacher's Autonomy	3,421	12.69	2.21	2.52	11.35
Teacher's Work loading	3,819	9.18	1.61	6.46	9.22
Teacher's Self-efficacy	3,813	12.65	2.12	3.22	12.33
Climate-Disciplinary	3,407	8.81	1.74	5.94	8.83
Climate-Innovation	3,809	2.88	0.62	1.00	3.00

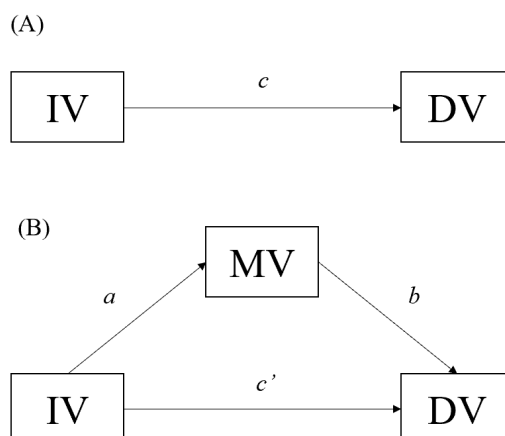
Table 1: Descriptive Statistics

Data Analysis

The study used a simple mediation model to understand the direct and indirect effects of the independent variables on the dependent variable through the mediator. The Sobel-Goodman test was applied to confirm the significance of the mediation effect.

By integrating a holistic framework for analysis, the study aims to illuminate not just the direct impact of the school climate on job satisfaction, but also how autonomy as a mediator might shape these relationships. This approach is anticipated to yield insights with significant implications for educational policy and practice, particularly in the context of the Taiwanese middle school environment.

Mediator



Note: IV denotes independent variable; MV denotes mediator variable, DV denotes dependent variable

Figure 1: The Illustration of Effect With the Mediator

Results and Discussion

Descriptive Statistics

The descriptive statistics reveal a diverse sample of teachers with respect to gender, educational level, and various perceived aspects of their job. A majority of the sample comprises female teachers (64.62%) and those with a Bachelor's degree or below (67.95%). The measures of job satisfaction, autonomy, work loading, self-efficacy, and school climate (disciplinary and innovation) show a wide range of values, suggesting variability in teachers' experiences and perceptions.

Regression Analysis Without Mediator

The regression analysis without the mediator variable (Table 2) indicates significant relationships between school climate (disciplinary and innovation), gender, work loading, self-efficacy, and job satisfaction. Notably, climate innovation has a positive effect on job satisfaction, whereas climate disciplinary has a negative effect. Work loading negatively impacts job satisfaction, while self-efficacy positively correlates with it. Gender and educational level also play roles, albeit to a lesser extent.

DV: Job Satisfaction	(1)	(2)	(3)	(4)
Climate disciplinary	-0.186 ^{***} (0.0177)	-0.112 ^{***} (0.0177)		
Climate innovation			0.879 ^{***} (0.0454)	0.738 ^{***} (0.0444)
Gender (Ref: female)				
Male		0.185 ^{**} (0.0640)		0.0931 (0.0586)
Educational level (Ref: bachelor and below)				
Master and above		-0.0518 (0.0622)		-0.0868 (0.0569)
Work loading		-0.230 ^{***} (0.0189)		-0.218 ^{***} (0.0171)
Self-efficacy		0.167 ^{***} (0.0147)		0.173 ^{***} (0.0130)
Constant	13.64 ^{***} (0.159)	12.95 ^{***} (0.305)	9.487 ^{***} (0.134)	9.707 ^{***} (0.259)
<i>N</i>	3,392	3,384	3,793	3,785
adj. <i>R</i> ²	0.031	0.105	0.090	0.164

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: Regression Without Mediator

Mediation Analysis

The Sobel-Goodman mediation tests (Table 3) and the regression analysis with the mediator variable (Table 4) demonstrate that teachers' autonomy mediates the relationship between school climate and job satisfaction. The mediation analysis reveals that both the direct and indirect effects of school climate (disciplinary and innovation) on job satisfaction are significant. The proportion of the total effect mediated by autonomy varies, indicating that autonomy is an important factor in how school climate influences job satisfaction, but it is not the sole mediator.

Implications of School Climate

The findings underscore the importance of school climate in influencing teacher job satisfaction. A supportive and innovative climate fosters higher satisfaction, possibly due to enhanced motivation and engagement. Conversely, a disciplinary climate might contribute to stress and lower satisfaction, underscoring the need for balanced and supportive management practices.

Role of Autonomy

Teacher autonomy emerges as a crucial factor in mediating the effects of school climate on job satisfaction. Autonomy not only directly contributes to satisfaction but also moderates the impact of environmental factors. This suggests that policies and practices empowering teachers with greater decision-making and independence could enhance their job satisfaction, even in less favorable climates.

Work Loading and Self-Efficacy

The negative impact of work loading on job satisfaction highlights the stress and potential burnout associated with high workload. On the other hand, self-efficacy's positive relationship with job satisfaction points to the beneficial effects of teachers' confidence in their abilities. Efforts to manage workload and support teacher development can thus contribute to higher satisfaction levels.

Gender and Educational Level

While gender and educational level have less pronounced effects, they nonetheless contribute to the complexity of job satisfaction dynamics. These factors may interact with other variables, such as school climate and autonomy, in nuanced ways that warrant further investigation.

DV: Job Satisfaction	(1)	(2)	(3)	(4)
Focal Independent Variable	Climate disciplinary	Climate disciplinary	Climate innovation	Climate innovation
Mediator Variable	Autonomy	Autonomy	Autonomy	Autonomy
Control Variable	No	Yes	No	Yes
Sobel	-0.028 ^{***} (0.004)	-0.013 ^{***} (0.003)	0.036 ^{***} (0.008)	0.013 ^{***} (0.005)
Aroian	-0.028 ^{***} (0.004)	-0.013 ^{***} (0.003)	0.036 ^{***} (0.008)	0.013 ^{***} (0.005)
Goodman	-0.028 ^{***} (0.004)	-0.013 ^{***} (0.003)	0.036 ^{***} (0.008)	0.013 ^{***} (0.005)

Standard errors in parentheses
 * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 3: Sobel-Goodman Mediation Tests

DV: Job Satisfaction	(1)	(2)	(3)	(4)
Focal Independent Variable	Climate disciplinary	Climate disciplinary	Climate innovation	Climate innovation
Mediator Variable	Autonomy	Autonomy	Autonomy	Autonomy
Control Variables	No	Yes	No	Yes
a coefficient	-0.268*** (0.21)	-0.193*** (0.022)	0.340*** (0.061)	0.204** (0.060)
b coefficient	0.103*** (0.014)	0.067*** (0.014)	0.105*** (0.013)	0.064*** (0.013)
Indirect effect a*b	-0.028*** (0.004)	-0.013*** (0.003)	0.036*** (0.008)	0.013** (0.005)
direct effect c'	-0.157*** (0.018)	-0.098*** (0.018)	0.843*** (0.048)	0.731*** (0.047)
Total effect c	-0.185*** (0.018)	-0.111*** (0.018)	0.879*** (0.048)	0.744*** (0.047)
% of total effect that is mediated	0.140	0.116	0.041	0.018
Ratio of indirect to direct effect	0.175	0.132	0.042	0.018
Ratio of total to direct effect	1.175	1.132	1.042	1.018

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4: Regression Result With Mediator

Conclusion

This research underscores the profound influence of school climate and teacher autonomy on the job satisfaction of middle school teachers in Taiwan, highlighting the necessity of a supportive and innovative educational environment. Mediation analysis reveals that teacher autonomy not only amplifies the benefits of an innovative climate but also mitigates the detrimental effects of a disciplinary climate on job satisfaction. These significant relationships have been substantiated by regression analyses and Sobel-Goodman mediation tests, emphasizing the pivotal role of autonomy.

To translate these insights into practice, it is recommended that educational policymakers focus on implementing policies that enhance teacher autonomy. This can be achieved by decentralizing decision-making, which allows teachers greater control over curriculum, teaching methods, and assessment, alongside introducing tailored professional development programs that empower teachers and foster a sense of ownership and responsibility. Additionally, schools should cultivate an environment that values innovation and creativity, requiring shifts in infrastructure and school culture. Enhancing open communication, collaboration among teachers, and their active involvement in school governance can significantly improve the school climate.

Furthermore, establishing a robust monitoring and evaluation framework is crucial to ensure the effectiveness of these policies. Regular feedback mechanisms and impact assessments should be implemented to fine-tune approaches and verify the realization of intended benefits

on teacher job satisfaction. Future research should explore the long-term effects of enhanced teacher autonomy and improved school climates in various educational settings and cultural contexts to fully understand their impact on educational outcomes.

These strategic recommendations aim to assist policymakers and educators in leveraging the findings of this study to create more engaging and fulfilling teaching environments. Empowering teachers through increased autonomy and a supportive school climate not only boosts job satisfaction but also holds the potential to elevate educational standards and student achievement worldwide.

References

- Bogler, R., & Somech, A. (2004). Influence of teacher empowerment on teachers' organizational commitment, professional commitment, and organizational citizenship behavior in schools. *Teaching and Teacher Education*, 20(3), 277-289.
- Collie, R. J., Shapka, J. D., & Perry, N. E. (2012). School climate and social-emotional learning: Predicting teacher stress, job satisfaction, and teaching efficacy. *Journal of Educational Psychology*, 104(4), 1189-1204.
- Friedman, I. A. (2000). Burnout in teachers: The concept and its unique core meaning. *Educational and Psychological Measurement*, 60(5), 717-733.
- Koth, C. W., Bradshaw, C. P., & Leaf, P. J. (2008). A multilevel study of predictors of student perceptions of school climate: The effect of classroom-level factors. *Journal of Educational Psychology*, 100(1), 96.
- Pearson, L. C., & Moomaw, W. (2005). The relationship between teacher autonomy and stress, work satisfaction, empowerment, and professionalism. *Educational Research Quarterly*, 29(1), 37-53.
- Skaalvik, E. M., & Skaalvik, S. (2011). Teacher job satisfaction and motivation to leave the teaching profession: Relations with school context, feeling of belonging, and emotional exhaustion. *Teaching and Teacher Education*, 27(6), 1029-1038.
- Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research*, 83(3), 357-385.

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Increasing Creative Leadership for Cooperatives to Increase Innovation in Products and Services

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Abstract

This study explores the important role of creative leadership in improving the ability of cooperative managers to drive innovation in products and services across micro, small, and medium enterprises (MSMEs) and various economic sectors in Indonesia. As technology evolves, cooperative managers are forced to adapt to contemporary developments, requiring creative flexibility to improve their professional competence. Using a mixed-methods approach that integrates qualitative and quantitative analysis, our research aims to implement a program that equips cooperative managers with tools to enhance their creative character. This study examines the nuanced aspects of creative thinking development through participant observation, interviews, and in-depth discussions during the training program. These findings reveal an important improvement in the ability of cooperative managers to generate innovative ideas, think critically, and adapt creatively to emerging challenges. Evaluation of the effectiveness of the Creative Leadership Strengthening Program, assessed through the interpretation of N-GAIN, categorizes it as an impact. Strengthened by a significant increase in participants' knowledge, evident in the variance between pretest and posttest scores, this study underscores the real positive impact of creative character training on the improvement of innovation in cooperative products and services in Banjarmasin. Initial findings show that, before implementing the creative character strengthening program, the level of creativity among cooperative managers and innovation in cooperative products and services in Banjarmasin is considered sufficient. Post-training, exploring the factors influencing creativity and innovation reveals key elements, including improved creative thinking skills, increased capacity to adapt to emerging challenges, and effective implementation of digital modules. The results of this study provide a comprehensive understanding of the factors that affect creativity and innovation in cooperative management in Banjarmasin after training.

Keywords: Creative Leadership, Cooperative Manager; Innovation in Products and Services, Micro, Small, and Medium Enterprises (MSMEs)

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Introduction

Cooperatives are one of the effective means of supporting local economic development (PEL). This often occurs in line with its role as a driver of economic growth, a creator of market access, and a grower of participation (Shava & Hofisi, 2019, Khuswati & Relita, 2019). Bretos, as quoted in Raharja et al.(2002) defines a cooperative as an entity driven by the goal of improving the welfare of its members through economically profitable activities, operating on the principles of mutual cooperation. With a strategic focus on the growth and development of micro, small, and medium enterprises (MSMEs) in various economic sectors, cooperatives are an integral component of Indonesia's economic structure (Perkasa & harahap, 2023).

However, in Banjarmasin, cooperatives face the challenge of maintaining their presence due to the lack of public understanding of the essence and importance of cooperative entities (Aslamiyah & Nasrudin, 2019). The overarching goal for cooperatives is to develop independently, ensure profitable operations and improve the welfare of their members, echoing the communal spirit embedded in Indonesian character. To improve Indonesia's economy, there are concerted efforts to maximize the role of cooperatives, emphasizing the need for strategic interventions such as training programs for cooperative managers (Susmonowati, 2023).

Character, including personality, behavior, traits, habits, and dispositions, is considered a fundamental element in the context of individuals and organizations. Lickona, as quoted by Hengki Primayana (2019), associates good character with honest living, where honesty extends to one's relationships with oneself and others.

Creativity, identified by Taylor and Getzels in 2017, as quoted in Shaxem et al. (2018), not only the generation of original ideas but the ability to understand innovative products and actions. It involves understanding new and unexpected relationships, building unique sequences, and thinking innovatively about seemingly unrelated factors (Wahab & Saud, 2021).

Recognizing the important role of human resource development, training is essential to improve the quality and professional skills of employees in cooperatives (Ristiani et al, 2020). According to Jackson et al. (2018), training has the main goal of improving performance in the near future and in certain jobs by improving employee competencies (Jackson, 2018).

Understanding the important role of cooperatives in supporting the growth and improvement of micro, small, and medium enterprises (MSMEs) in various sectors of the economy, basic training for cooperative managers aims to lay the foundation to enhance their creative character. This fundamental improvement is expected to catalyze creativity and innovation, thereby encouraging the progress of cooperatives in various aspects.

The main goal of this study is to design, implement, and evaluate basic training programs for cooperative managers, with a focus on improving their creative character. This study aims to measure the effectiveness of training not only improving participants' creative thinking skills and fostering a culture of innovation in cooperative management.

The novelty of this study lies in its comprehensive approach to understanding and developing creative leadership in the cooperative sector. Combining insights from character development, creativity theory, and innovative training methodologies, this research seeks to contribute to a nuanced understanding of the factors that affect creativity and innovation in cooperative management. This study aspires to provide practical recommendations to encourage innovation and contribute to the broader discourse on cooperative development in Banjarmasin and beyond.

Literature Review

Creative Character in Cooperative Development

The dynamic landscape of cooperative development places a significant emphasis on the creative prowess of cooperative managers, an important factor in encouraging active engagement among cooperative members. This effort is not just about managerial creativity but a joint effort to provide great benefits to members and the wider community through a variety of initiatives. The essence of realizing these benefits lies in the innovative and creative management of cooperative operations.

Mutis conceptualizes creativity as the ability to inject novelty into life (Mutis, 2015). These intrinsic qualities are an important source of competitive advantage, especially in an environment characterized by rapid change. The essence of creativity is not just about generating ideas. However, it includes the ability to respond to change inventively, an indispensable quality in the intricate web of organizational problem-solving and decision-making (mutis, 2015).

Sule and Kurniawan (2006:228) further describe creativity as the capacity of individuals to generate new ideas, especially building existing knowledge. An individual's talent for generating these new and innovative ideas is crucial to an organization's adaptability to change. In a cooperative environment characterized by diverse challenges and evolving landscapes, individuals who come up with inventive solutions become catalysts for positive organizational development.

The evolving nature of the cooperative environment requires constant readiness to adapt. This is where the importance of creativity lies, acting as the driving force behind innovative solutions to emerging challenges. The cooperative manager, as the torchbearer of this creative spirit, plays a crucial role in directing the cooperative ship through uncharted waters.

The symbiotic relationship between creativity and organizational development becomes clear. Organizations that foster a culture of creativity navigate change more effectively and foster an environment where new ideas thrive. Cooperative managers, equipped with creative insights, are instrumental in forming cooperatives that are resilient, innovative, and responsive to the needs of their members and the wider community.

Fostering creative character among cooperative managers goes beyond the development of individual skills; This is the foundation for the resilience, growth, and ability of cooperatives to navigate the complexity of an ever-changing socio-economic landscape. Driven by creative leadership, cooperatives are emerging as financial entities and dynamic forces for positive change and sustainable development.

Essence of Cooperatives

The term "cooperative" carries a deep meaning, rooted in its etymological origins of "co" and "operation," signifying collaborative efforts and collective action (Haryosono & Cahyono, 1983). In essence, it encapsulates that efforts collectively embody the spirit of cooperation.

As defined by the International Labour Organization (ILO), cooperatives represent voluntary associations of individuals, often grappling with economic losses, uniting their efforts to achieve common goals through cooperative activities. These collaborative efforts are democratically supervised companies where members are willing to contribute significant capital, share associated risks, and participate fairly in the profits generated (Sudarsono & Edilius, 2007). These principles highlight the cooperative's commitment to democratic governance, risk sharing, and equitable distribution of benefits among its members.

The legal framework provided by the Indonesian Cooperative Law No. 25/1992 further refines this definition. According to the law, a cooperative is a business entity consisting of an individual or legal entity that operates based on the principle of cooperatives. Functions as a business entity and a people's economic movement based on the principles of kinship (Law of the Republic of Indonesia No. 25/1992). This dual identity emphasizes the socio-economic dimension of cooperatives, positioning them as more than just economic entities.

As articulated by Sitio and Tamba (2001), the essence of cooperatives lies in their stance as economically weak collectives, united in maintaining their livelihood needs. This particular foundation underscores the cooperative's commitment to living frugally and prioritizing collective needs over generating profits. Cooperatives are envisioned as socio-economic entities with a mission beyond financial gain.

The priority of collective well-being over individual profits departs from the traditional business model. Cooperatives are not just profit-driven enterprises but instruments of collective empowerment, promoting frugal living and resilience among economically disadvantaged individuals. Cooperatives, thus, emerged as a socio-economic force committed to the collective well-being and improvement of their members. The principles of cooperation go beyond business transactions, fostering a sense of togetherness and shared prosperity.

Driving Business Evolution: Exploring the Dynamics of Product Innovation

In the complex landscape of business operations, innovation is a critical force that shapes the sustainability and dynamism of every company (Trott, 2011). Its influence extends across the spectrum of management activities, including the conception of ideas, technological advancements, manufacturing processes, and the strategic marketing of new or processed products. Drucker places innovation as a niche tool, allowing companies to embrace transformative change as an opportunity for diversification and the pursuit of new businesses (Drucker, 2012).

The essence of innovation, as outlined by Anatan and Ellitian in 2009, lies in its transformative nature within an organization. It encapsulates creative changes that create new products, services, ideas, or processes. This transformative process is not limited to internal dynamics but extends to external influences, recognizing that innovation can emerge within and beyond the boundaries of the organization.

Creativity is at the heart of this transformative journey—the ability to generate and generate new, useful ideas (Gupta, 2007). This symbiotic relationship positions creativity as a prerequisite for meaningful innovation and organizational transformation. Gupta's emphasis on the intertwined nature of creativity and innovation highlights that one cannot thrive without another.

Innovation is not a solitary event but an ongoing process driven by creative imagination. This goes beyond just the introduction of new products; This embodies a comprehensive approach to organizational evolution. The transformative power of innovation, rooted in creative thinking, drives a company's adaptability, growth, and continued relevance in a dynamic market landscape. As companies navigate the ever-changing business landscape, the marriage of creativity and innovation emerges as a dynamic duo, propelling them towards a future full of possibilities.

Improving Community Welfare

In a complex web of business dynamics, services emerge as fundamental components, adding layers of value to transactions and interactions. Kotler's definition encapsulates service as an intangible act or activity from one party to another, without physical possession (Laksana, 2008). The service sector is expanding its influence across a diverse range of business models, playing a dual role both as a standalone product and an intrinsic supplement intertwined with the core product.

In essence, services represent a tangible manifestation of intangible interactions, forming an indispensable link in the business ecosystem. When applied to cooperatives, it takes on a deep dimension. In the context of cooperatives, cooperative services go beyond conventional transactions to realize a commitment to communal welfare. It's not just about the preparation of intangible actions; It's about fostering an environment where the needs of the community come first.

Cooperative services, guided by the principles of mutual aid and democratic collaboration, go beyond conventional business transactions. They become a channel for community empowerment, symbolizing the cooperative's commitment to collective prosperity. The cooperative model, which is inherently rooted in family principles, reinforces the importance of service, putting the collective well-being of its members at the forefront (Sudarsono & Edilius, 2007).

The Indonesian Cooperative Law No. 25/1992 describes cooperatives as business entities based on cooperative principles. These principles support economic activities and function as a people's economic movement based on the principles of kinship (Law of the Republic of Indonesia No. 25/1992). Cooperatives, therefore, emerged as a unique amalgamation of economic pursuits and social cohesion, with services acting as conduits that bind these elements together.

Understanding the essence of cooperative services requires going beyond the conventional perception of services as mere transactions. Rather, it invites us to investigate the ethos of cooperatives—spaces where economic endeavor is intertwined with social responsibility. This complex interaction positions cooperative services as an action and catalyst for the progress of the community, realizing the spirit of cooperation for mutual support and mutual prosperity. As cooperatives navigate the contemporary business landscape, the transformative

potential of their services lies not only in transactions but also in the collective impact they have on the well-being of their members and the wider community.

Methodologists

This study uses a mixed-method approach, combining quantitative and qualitative methods to understand research problems and questions holistically (Clark & Creswell, 2014). This design, specifically the sequential design of explanations, integrates both methods to gain a deeper understanding than when used independently. This study involved 16 participants for quantitative data collection through questionnaires and 32 participants for qualitative in-depth interviews.

The population consisted of 350 cooperative managers in Banjarmasin, with a sample of 16 core cooperative managers selected for the study. The research instruments include variables such as manager creativity, product innovation, and service quality in cooperatives. The questionnaire contains items to assess each indicator under these variables.

Data analysis includes quantitative and qualitative methods. Quantitative data underwent statistical analysis, while qualitative data from interviews followed an interactive and continuous analysis procedure by Miles and Huberman (2014). The analysis includes data reduction, presentation of findings, and verification of conclusions.

The research unfolds in two phases: first, the quantitative phase involves distributing questionnaires, preparing and analyzing quantitative data, and obtaining preliminary findings. Furthermore, the qualitative phase uses in-depth interviews to deepen and support the quantitative data. This multi-phase approach ensures a comprehensive understanding of the research question by integrating findings from quantitative and qualitative analyses.

Results and Discussion

Level of Creativity, Product Innovation, and Cooperative Services in Banjarmasin

The survey findings revealed that the level of creativity among cooperative managers in Banjarmasin was moderate, with an average score of 3.8 on a scale of 1-5. And then product and service innovation of 3.7 on a scale of 1-5. This indicates that the ability of existing cooperative managers plays a major role in increasing the creativity and innovation of cooperative products and services in Banjarmasin.

The Effect of Creative Character Training on Increasing Innovation

This study uses regression analysis to examine the impact of creative character training on the progress of product and service innovation. These findings showed a statistically significant positive correlation between creative character training and increased innovation ($p < 0.05$). In particular, cooperative managers who undergo creative character training show a significant improvement in their ability to generate innovative ideas and improve the overall quality of the products and services offered by the cooperative. So it can be concluded that training in cooperative administrators can increase the character of creativity in cooperative administrators.

Factors Affecting Creativity and Innovation

An analysis of the factors that influence creativity and innovation reveals several key elements. First, prominent leadership is considered an important factor. Cooperatives benefit from leaders who actively pour out new ideas and encourage innovative risk-taking, resulting in higher scores on creativity assessments. In addition, external factors, especially government policies that support the development of local products and innovation within the cooperative sector, significantly shape the overall landscape for creativity and innovation. Furthermore, organizational culture emerged as an important internal factor, emphasizing the importance of member participation in the decision-making process as a fundamental aspect in fostering creativity among cooperative managers. This triad of leadership, external policy, and organizational culture collectively underscores the diverse nature of the factors that contribute to creativity and innovation in cooperatives.

Conclusion

This preliminary study highlights the current state of creativity and innovation among cooperative managers in Banjarmasin. The moderate level of creativity and innovation identified underscores the significant potential for cooperatives to improve. Key findings highlight the strength in openness to new ideas and product variety among managers, while regression analysis underscores the positive impact of creative character training on increased innovation. The multifaceted factors that influence creativity and innovation, including leadership support, government policies, and organizational culture, offer a nuanced understanding of the cooperative landscape.

We recommend targeted leadership development programs underscore the importance managers have the necessary skills to drive innovation. At the same time, policy advocacy is important to create an environment conducive to the development and innovation of local products. It is important in this progress that cooperatives need to invest in strengthening their organizational culture, embracing participation from others, and recognizing innovative contributions. Proactive collaboration inside and outside the cooperative is encouraged to leverage diverse perspectives and resources for collective innovation. Recognizing the dynamic nature of creativity and innovation, the study emphasizes the importance of continuous monitoring and evaluation, ensuring strategies remain relevant and effective. Additionally, knowledge-sharing platforms have emerged as a valuable tool for cross-learning and developing best practices. Ultimately, the strategic implementation of these interventions serves as a catalyst for sustainable innovation, benefiting not only individual organizations but also the broader cooperative sector and the communities they serve.

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References

- A. Aslamiyah and N. Nasrudin, "Faktor-Faktor Yang Mempengaruhi Perkembangan Koperasi Mahasiswa Di Banjarmasin," *JIEP J. Ilmu Ekon. dan Pembang.*, Vol. 2, No. 1, hlm. 175, 2019, DOI: 10.20527/jiep.v2i1.1164
- A. R. Wahab and M. S. Saud, "Pembangunan Instrumen Karakter Kreatif Pelajar Pendidikan Teknikal dan Latihan Vokasional (TVET)," *Anp J. Soc. Sci. Kemanusiaan.*, vol. 2, no. 2, hlm. 112–122, 2021, [Online]. Tersedia: <https://doi.org/10.53797/anp.jssh.v2i2.16.2021>
- A. Sitio dan H. Tamba, *Koperasi Teori dan Praktek*. Jakarta: Erlangga, 2001.
- E. Khuswati and D. T. Relita, "Pengaruh Kualitas Pelayanan Koperasi Terhadap Kepuasan Anggota Koperasi Simpan Pinjam (KSP) Bhakti Lestari Kecamatan Sungai Tebelian," *JURKAMI J. Pendidik. Ekon.*, Vol. 4, No. 2, hlm. 89–98, 2019, DOI: 10.31932/JPE.V4I2.594
- F. Laksana, *Manajemen Pemasaran*. Yogyakarta: Graha Ilmu, 2008.
- Jackson, S. E., Sculer, R. S., & Werner, S. (2018). *Managing Human Resources* (12 (ed.)). Oxford University Press.
- K. H. Primayana, "Menciptakan Pembelajaran Berbasis Pemecahan Masalah Dengan Berorientasi Pembentukan Karakter Untuk Mencapai Tujuan Higher Order Thingking Skilss (HOTS) Pada Anak Sekolah Dasar," *Purwadita J. Agama dan Budaya*, vol. 3, no. 2, hlm. 85–92, 2019, [Online]. Tersedia: <https://jurnal.stahnmpukuturan.ac.id/index.php/Purwadita/article/view/367>
- L. Anatan dan L. Ellitan, *Manajemen Inovasi (Transformasi Menuju Organisasi Kelas Dunia)*. Bandung: Alfabeta, 2009.
- P. Trott, *Manajemen Inovasi dan Pengembangan Produk Baru*. Pendidikan Pearson, 2011.
- P. F. Drucker, *Inovasi dan Kewiraswastaan*. Jakarta: Erlangga, 2012.
- P. Gupta, *Inovasi bisnis di abad ke-21*. North Charleston, Carolina Selatan: Dipak Jain, Dean Kellogg School of Management, 2007.
- R. D. Perkasa and F. F. Harahap, "Pengaruh Koperasi terhadap Peningkatan Usaha Kecil Menengah Masyarakat Kota Tanjungbalai," *J. Pendidik. Tambusai*, vol. 7, no. 2, hlm. 13931–13936, 2023.
- Shava, E., & Hofisi, C. Cooperatives as strategies of local economic development in the City of Tshwane. *Journal of Contemporary Management*, 16 (2), 23-42. <https://doi.org/10.35683/jcm18028.0025>

- S. J. Raharja, H. A. Muhyi, A. Chan, and R. Purbasari, "Pelatihan Social Media Marketing Bagi Pengurus Koperasi-Koperasi Di Kecamatan Panyileukan Kota Bandung," *Kumawula J. Pengabd. Kpd. Masy.*, Vol. 5, No. 1, hlm. 115, 2022, DOI: 10.24198/kumawula.v5i1.36042
- S. M. Ristiani, R. Triwoelandari, and Y. Yono, "Pengembangan Media Pembelajaran Lectora Inspire Versi 12 Pada Mata Pelajaran IPA Berbasis STEM untuk Menumbuhkan Karakter Kreatif Siswa," *J. Basicedu*, Vol. 5, No. 1, hlm. 30–40, 2020, DOI: 10.31004/Basicdu.v5i1.613
- S. Haryosono dan B. T. Cahyono, *Ekonomi Koperasi*. Yogyakarta: Liberti, 1983.
- Sudarsono dan Edilius, *Manajemen Koperasi Indonesia*. Jakarta: Rineka Cipta, 2007.
- Sugiyono, *Metode penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D)*. Bandung: Alfabeta, 2014.
- T. Susmonowati, "Pelatihan Pengelolaan Keuangan Koperasi bagi Pengurus Koperasi Mahasiswa Institut STIAMI," *J. Komunitas J. Pengabd. Kpd. Masy.*, vol. 6, no. 1, hlm. 44–49, 2023, [Online]. Tersedia: <http://ojs.stiami.ac.id>
- T. Mutis, *Kewirausahaan yang Berproses*. Jakarta: PT Grasindo, 1995.
- V. L. P. Clark dan J. W. Creswell, *Memahami penelitian: Panduan konsumen, Enhanced Pearson eText dengan versi longgar - Paket Kartu Akses*. Pearson, 2014.

***Trends in Global Citizenship Education Research:
Bibliometric Mapping and Opportunities for Development***

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Abstract

This research analyzes the development of Global Citizenship Education research through bibliometric mapping using VOSviewer. Articles were collected from the Google Scholar database using the Publish or Perish application to observe topic trends. This study analyzed the indexed database of Google Scholar for 10 years (2013-2023), resulting in 969 articles. The data analysis results indicate a significant decrease in the number of publications, decreasing from 131 in 2013 to 21 in 2023. However, in the VOSviewer analysis, it was found that there are 597 items, 12 clusters, 17,920 links, and a total link strength of 26,143. The complexity of these connections creates the potential for further development, offering opportunities for the exploration of new topics and research innovation. Despite a decline in interest in Global Citizenship Education, these findings show that the topic is still relevant and has significant connections for research innovation. While interest has decreased, Global Citizenship Education still has a significant and relevant impact in achieving sustainable development goals. Therefore, further research in this field is expected to continue supporting the attainment of sustainable development goals and contributing to addressing global issues. These findings indicate that there are still many research topics to be explored and developed, making this review a starting point for research in other related fields of study.

Keywords: Bibliometric, Computational Mapping Analysis, Global Citizenship Education

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Introduction

Global Citizenship Education (GCED) has become an important focus in global education literature due to its crucial role in preparing individuals to face the complex challenges of the 21st century. The concept of GCED aims to develop a deep understanding of global issues such as peace, social justice, human rights, and sustainable development (Ahmed, E. I., & Mohammed, A., 2022; Edwards Jr, D. B., et al., 2020; Amin, H., et al., 2023). Although the design of GCED is expected to substantially influence individuals' thinking and actions in a global context, its implementation often faces significant challenges, such as imbalances in the global curriculum, resource limitations, and differing approaches among countries (Franch, S., 2020; Akkari, A., & Maleq, K., 2020).

Global Citizenship Education (GCED) has gained significant recognition in global education policies. Data from a 2019 UNESCO survey showed that more than 90% of UN member states have formally integrated GCED into their school curricula (UNESCO, 2021). This reflects a broad awareness of the importance of preparing the younger generation with a deep understanding of crucial global issues. The decision to include GCED in the school curriculum is an important step in promoting values such as peace, social justice, human rights, and sustainable development among students. It also demonstrates a global commitment to ensuring that education not only prepares students academically but also equips them to actively participate in responding to and solving increasingly complex global problems.

Despite the widespread adoption of GCED, its implementation varies among countries. The success of GCED implementation is often influenced by supportive national education policies, the availability of adequate educational resources, and local understanding of the importance of GCED in their cultural context (UNESCO, 2021; Kidd, J., 2023). Countries with clear education policies and strong support for GCED tend to have better implementation rates, while countries with resource challenges or cultural differences may face barriers to effectively integrating GCED into their curricula. Although the adoption of Global Citizenship Education (GCED) has been widespread worldwide, its implementation varies between countries. Key factors influencing the success of GCED implementation include national education policies, the availability of educational resources, and local understanding of the importance of GCED in their cultural context. Countries with clear education policies and strong support for GCED tend to have better implementation rates (Al'Abri, K. M., et al., 2022). These countries have thoroughly integrated GCED into their school curricula and allocated adequate resources for teacher training and the development of GCED materials. On the other hand, countries with resource challenges or differences in cultural understanding often face barriers in effectively implementing GCED. These may include difficulties in providing adequate educational infrastructure or adapting the GCED curriculum to diverse local values. Therefore, to enhance the global effectiveness of GCED, it is essential to recognize and address existing challenges and adopt flexible approaches tailored to the educational needs and contexts of each country.

Moreover, the importance of GCED is not limited to formal education aspects. GCED also plays a crucial role in shaping attitudes, values, and skills necessary for active participation in an increasingly interconnected global society (Sumida, S., 2022; Al'Abri, K., 2024; Milana, M., & Tarozzi, M., 2020). Educational strategies that incorporate local culture and social contexts are also needed to ensure that GCED can significantly influence individuals' behaviors and attitudes in supporting global goals such as sustainable development and world

peace. The importance of Global Citizenship Education (GCED) is not limited to formal educational aspects, but also has a significant impact on shaping relevant attitudes, values, and skills for active participation in an increasingly interconnected global society. GCED serves as a bridge to develop a deep understanding of global issues such as sustainable development, world peace, and social justice. Through this education, individuals not only gain knowledge but also acquire interpersonal skills and sensitivity to the complexities of global issues. GCED strategies that are sensitive to local culture and social contexts are key to ensuring that its values and goals are effectively accepted and implemented in culturally diverse societies. By influencing individual behaviors and attitudes, GCED has great potential to contribute positively to achieving global goals such as sustainable development and world peace.

Thus, although GCED has made progress in being adopted globally, challenges in its implementation highlight the need for cross-sector collaboration and innovation in education to ensure that GCED not only becomes part of the curriculum but also transforms the way individuals think and act in facing the complex challenges of the 21st century.

Methodology

The methodology employed in this research adopts a bibliometric approach to analyze trends and patterns in the literature on Global Citizenship Education (GCED). The bibliometric approach was chosen because it is capable of providing comprehensive insights into the development and structure of research in this field using data from the Google Scholar database. First, we used the Publish or Perish application to collect GCED-related articles from the Google Scholar database. These articles were analyzed for the past ten years, from 2013 to 2023, to identify publication trends and changes in research focus.

Next, the bibliometric data was processed using VOSviewer software to perform network and cluster analysis. VOSviewer was used to visualize the network between articles based on keyword, citation, or co-authorship relationships. This analysis helped to identify dominant topic clusters in the GCED literature, as well as understand the complex relationships and connections between topics. The data collected from the bibliometric analysis was then analyzed descriptively and interpretively to describe the evolution of GCED in the academic literature, highlight key trends, patterns of inter-topic relationships, and potential directions for future research. By using this methodology, this paper is expected to make a significant contribution to understanding the development of GCED from a bibliometric perspective, as well as provide guidance for researchers and education practitioners in planning and developing further studies on global citizenship.

Findings

The findings of the bibliometric analysis revealed intriguing trends over a 10-year period (2013-2023) using the Google Scholar database, where this study successfully collected 969 indexed articles. Analysis data showed a significant decline in the number of publications from 131 articles in 2013 to only 21 articles in 2023. Nevertheless, the analysis using VOSviewer revealed that there were 597 entities or elements connected in the network, divided into 12 different groups or clusters. The total number of inter-entity links reached 17,920, with a total link strength of 26,143. These findings demonstrate the complexity of inter-topic relationships in research on Global Citizenship Education, offering deep insights

into the structure and evolution of knowledge in this field over the past decade. These findings are visualized in Table 1 below:

Year	Publication
2013	131
2014	118
2015	124
2016	137
2017	114
2018	113
2019	73
2020	69
2021	36
2022	33
2023	21
Total	969

Table 1. Research developments with the keyword Global Citizenship Education

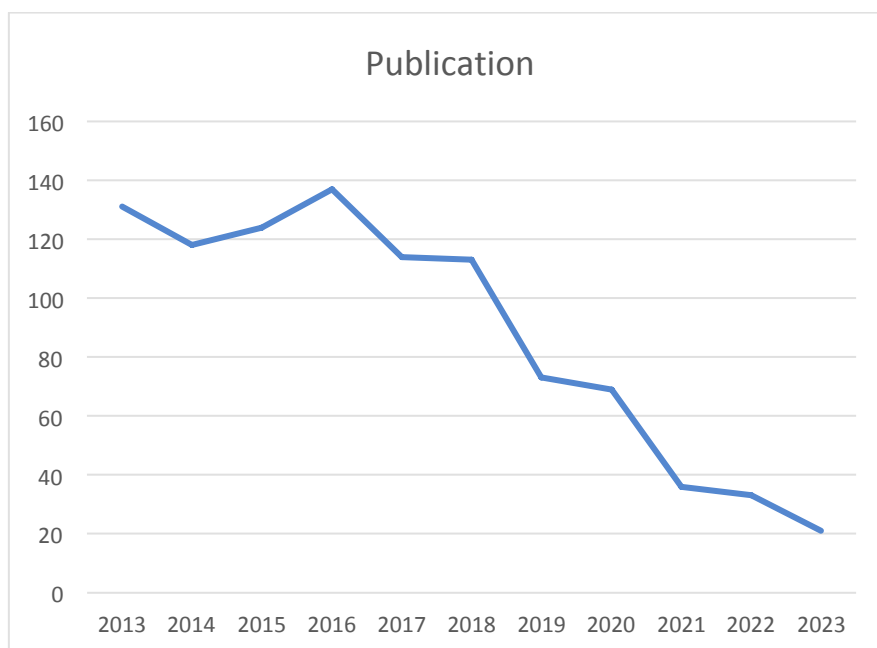


Figure 1. Research developments with the keyword Global citizenship education

Research on "Global Citizenship Education" (GCED) exhibited an intriguing trend during the period 2013-2023. In 2013, the number of publications reached 131 articles and experienced slight fluctuations before peaking at 137 articles in 2016. However, a significant decline followed. From 114 articles in 2017, the number of publications continued to decline to only 21 articles in 2023, reflecting a drastic decrease over the decade. The average number of publications per year during this period was around 96.9 articles. The most significant decline occurred between 2018 and 2019, from 113 to 73 articles. Despite the decline in the number of publications, the analysis using VOSviewer revealed 597 entities connected within the research network, divided into 12 clusters, with a total of 17,920 inter-entity links and a link strength of 26,143. This indicates that the complexity and interconnectedness of topics in GCED research remains strong and evolving, even amidst the decline in the number of

publications. Table 2 below presents the top 10 articles based on the highest number of citations per year.

Cites	Authors	Title	Year
1381	Bozkurt, A., et al.	A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis	2020
1276	Lozano, R., et al.	Declarations for sustainability in higher education: becoming better leaders, through addressing the university system	2013
1257	Serdyukov, P.	Innovation in education: what works, what doesn't, and what to do about it?	2017
1178	Dwivedi, YK., et al.	Impact of COVID-19 pandemic on information management research and practice: Transforming education, work and life	2020
965	Lozano, R., et al.	A review of commitment and implementation of sustainable development in higher education: results from a worldwide survey	2015
657	Morgan, H.	Best practices for implementing remote learning during a pandemic	2020
631	Oxley, L. & Morris, P.	Global citizenship: A typology for distinguishing its multiple conceptions	2013
628	Caena, F. & Redecker, C.	Aligning teacher competence frameworks to 21st century challenges: The case for the European Digital Competence Framework for Educators (Digcompedu)	2019
607	Wals, AEJ.	Sustainability in higher education in the context of the UN DESD: a review of learning and institutionalization processes	2014
607	Anguelovski, I., et al.	Equity impacts of urban land use planning for climate adaptation: Critical perspectives from the global north and south	2016

Table 2. Best articles based on the highest number of citations, January 2024

The first article, "A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis" by Bozkurt et al. (2020), highlighting the impact of the COVID-19 pandemic on global education, emphasizes the differences between emergency education and pre-planned distance education. This research shows that social injustice and digital inequality have increased during the pandemic. The second article, "Declarations for sustainability in higher education: becoming better leaders,

through addressing the university system" by Lozano et al. (2013), analyzed eleven declarations for Education for Sustainable Development (ESD) and emphasized the importance of collaboration, transdisciplinarity, and the integration of SD into the institutional framework of universities. The third article, "Innovation in education: what works, what doesn't, and what to do about it?" by Serdyukov (2017), reviews educational innovation in the United States and identifies barriers and ways to improve innovation-based transformation in the education system. The fourth article, "Impact of COVID-19 pandemic on information management research and practice: Transforming education, work and life" by Dwivedi et al. (2020), explored the impact of the pandemic on information management and practices by gathering perspectives from 12 experts, covering topics such as online learning and digital strategy. The fifth article, "A review of commitment and implementation of sustainable development in higher education: results from a worldwide survey" by Lozano et al. (2015), analyzed the commitment and implementation of sustainable development in higher education institutions around the world and found that efforts were often segmented, with academic leadership commitment being the main factor in implementation.

Furthermore, the sixth article, "Best practices for implementing remote learning during a pandemic" by Morgan (2020), discusses best practices for implementing distance learning during a pandemic in schools in the United States and emphasizes the importance of equality in internet access and resources. The seventh article, "Global citizenship: A typology for distinguishing its multiple conceptions" by Oxley and Morris (2013), develops a typology for distinguishing various concepts of global citizenship (GC) and offers a new way to analyze educational policies and programs that promote GC. The eighth article, "Aligning teacher competency frameworks to 21st century challenges: The case for the European Digital Competence Framework for Educators (Digcompedu)" by Caena and Redecker (2019), highlights the importance of changing teacher competency profiles to face 21st century challenges by supporting development of teacher digital competence. The ninth article, "Sustainability in higher education in the context of the UN DESD: a review of learning and institutionalization processes" by Wals (2014), is based on a review of the UN's Decade of Education for Sustainable Development (UN DESD) and highlights processes of learning and change systemic actions carried out by higher education institutions to support sustainability. The tenth article, "Equity impacts of urban land use planning for climate adaptation: Critical perspectives from the global north and south" by Anguelovski et al. (2016), critique land use planning for climate adaptation in eight cities around the world and find that this planning can exacerbate social and spatial inequalities, as well as highlighting inequities in urban adaptation that affect poor communities. These articles collectively describe challenges and solutions in the fields of education, sustainability, and climate adaptation, providing deep insight into the complexity and dynamics of these topics. Then the 10 best articles based on Google Scholar ranking are also presented in table 3 below.

Cites	Authors	Title	Year
98	Estellés, M., et al.	Who needs global citizenship education? A review of the literature on teacher education	2021
409	Goren, H. & Yemini, M.	Global citizenship education redefined—A systematic review of empirical studies on global citizenship education	2017
61	Blackmore, C.	Towards a Pedagogical Framework for Global Citizenship Education.	2016
73	Horey, D., et al.	Global citizenship and higher education: A scoping review of the empirical evidence	2018
106	Goren, H. & Yemini, M.	Global citizenship education in context: Teacher perceptions at an international school and a local Israeli school	2016
1	Saleem, A., et al.	Global Citizenship Education: A New Approach to Global Citizenship Development	2022
20	Andrews, K. & Aydin, H.	Pre-service teachers' perceptions of global citizenship education in the social studies curriculum	2020
126	Torres, CA.	Global citizenship and global universities. The age of global interdependence and cosmopolitanism	2015
56	Brunell, LA.	Building global citizenship: Engaging global issues, practicing civic skills	2013
15	Kolleck, N. & Yemini, M.	Environment-related education topics within global citizenship education scholarship focused on teachers: A natural language processing analysis	2020

Table 3. Best articles based on Google Scholar Rank, January 2024

Articles related to global citizenship education (GCED) demonstrate a variety of approaches and focuses in studying and developing this concept. Estelles et al. (2021) highlight that discourse in the teacher education (TE) literature often depicts GCED as an idealistic and altruistic educational solution, but tends to ignore the underlying neoliberal context. Goren and Yemini (2017) conducted a systematic conceptual review of empirical studies on GCED over the past ten years, identifying dominant themes and suggesting a framework for future research development. Blackmore (2016) developed a pedagogical framework for GCED that includes critical thinking, dialogue, reflection, and responsible action, and demonstrated its application in research and evaluation of teaching processes.

Horey et al. (2018) explored the understanding and implementation of global citizenship in higher education through a scoping review of empirical studies, providing a theoretical framework to describe the contributions of global citizenship education. Goren and Yemini (2016) revealed differences in teachers' perceptions of GCED in international schools and local public schools in Israel, emphasizing the importance of school context and student background as well as the role of teacher agency. Saleem et al. (2022) highlight the importance of GCED as civic learning that enables individuals to participate in building a more peaceful and inclusive society, with a focus on elements such as peace education, human rights, and humanitarian norms.

Andrews and Aydin (2020) explored prospective teachers' perceptions of GCED in the social studies curriculum, emphasizing that GCED should be integrated to increase cultural sensitivity and awareness of global issues among students. Torres (2015) highlights the role of global universities in the context of globalization and cosmopolitan citizenship, as well as their impact on global citizenship education. Brunell (2013) shows how international politics courses can foster global civic engagement through experiential learning, allowing students to participate in global movements and develop locally and globally relevant civic skills. Kolleck and Yemini (2020) analyzed the representation of environment-related education in GCED discourse using Natural Language Processing and Social Network Analysis, finding that these topics are increasingly prominent and influenced by the policies of intergovernmental organizations. Overall, these articles illustrate the complexities and dynamics in global citizenship education, providing in-depth insights into challenges, solutions, and future research directions.

Andrews and Aydin (2020) explored prospective teachers' perceptions of GCED in the social studies curriculum, emphasizing that GCED should be integrated to increase cultural sensitivity and awareness of global issues among students. Torres (2015) highlights the role of global universities in the context of globalization and cosmopolitan citizenship, as well as their impact on global citizenship education. Brunell (2013) shows how international politics courses can foster global civic engagement through experiential learning, allowing students to participate in global movements and develop locally and globally relevant civic skills. Kolleck and Yemini (2020) analyzed the representation of environment-related education in GCED discourse using Natural Language Processing and Social Network Analysis, finding that these topics are increasingly prominent and influenced by the policies of intergovernmental organizations. Overall, these articles illustrate the complexities and dynamics in global citizenship education, providing in-depth insights into challenges, solutions, and future research directions.

VOSviewer's network visualization of trends in global citizenship education research shows several dominant clusters and key keywords that provide important insights (See figure 2). Red clusters highlight words such as "education," "global citizenship education," "impact," "effect," and "perception," indicating the research focus on the impact and perception of global citizenship education. Green clusters with words such as "sustainability", "human rights", "non-violence", and "peace" indicate a close relationship between global citizenship education and issues of sustainability, human rights and peace. The blue cluster that includes words such as "literacy", "faculty", "relationship", and "indonesia" emphasizes research on literacy, relationships between faculties or institutions, as well as a regional focus on Indonesia. Key keywords such as "education" indicate that educational topics in general are at the center of much research, with "global citizenship education" standing out as a particular focus. "Sustainability" was also an important theme, indicating that education for

sustainability was an integral part of the discussion. Other important topics include "teacher education" and "curriculum", indicating significant efforts in teacher training and the integration of global citizenship concepts in the curriculum. The relationship between "education" and "global citizenship education" emphasizes the exploration of how education can develop the concept of global citizenship, while the relationship between "sustainability" and "human rights" shows attention to the contribution of education to more sustainable and equitable development. Opportunities for further development are seen in integration with other social issues and a more holistic, multidisciplinary approach. Overall, this visualization shows that global citizenship education is a dynamic research area with many opportunities for further development.

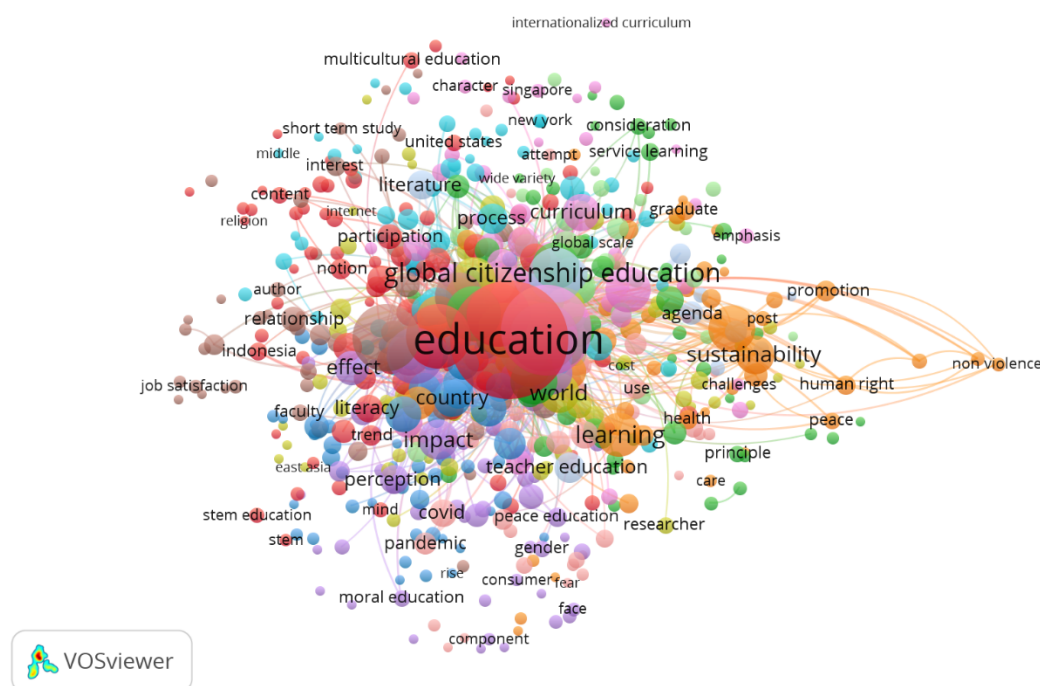


Figure 2. Network visualization

The results of a network visualization from VOSviewer regarding research trends in global citizenship education during the period 2013 to 2023 show that the topics "education", "global citizenship education", "sustainability", and "learning" are very frequently discussed in the literature, with "education" being the word the most dominant key (See figure 3). The colors of the nodes indicate the temporal development of the keywords, where yellow indicates newer research and blue indicates older research. Important topics such as "sustainability", "global citizenship education", and "learning" which are colored green to yellow show increased attention in recent years. The relationship between "global citizenship education" with "sustainability" and "human rights" reflects the integration of global citizenship issues with sustainability and human rights. New topics such as "peace", "non-violence", "covid", "pandemic", and "job satisfaction" show increased interest and impact of the pandemic on research. Overall, this visualization confirms that global citizenship education research is a dynamic and growing field, with great opportunities for the exploration of new issues and multidisciplinary approaches that can provide more holistic and applicable insights in shaping inclusive and sustainable global citizenship.

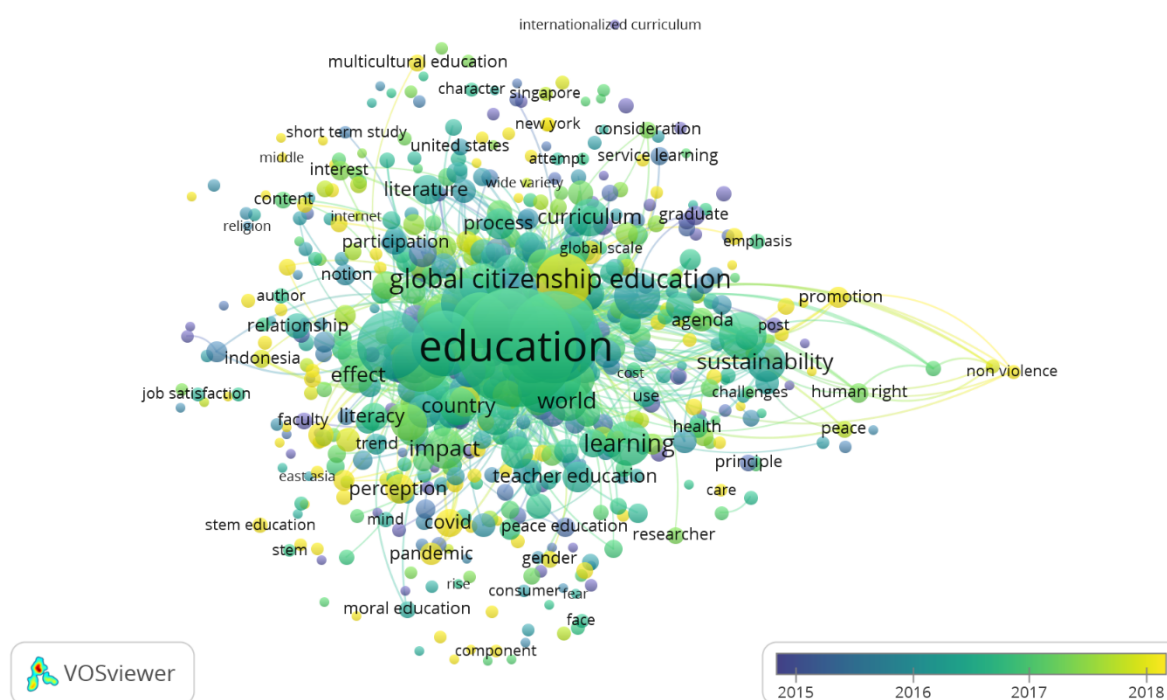


Figure 3. Network visualization

Density visualization results from VOSviewer regarding global citizenship education research show that “education” is the keyword with the highest density, indicating the most frequently discussed topic. The keyword “global citizenship education” also shows high density, reflecting significant interest in this field (See figure 4). The aspects of "sustainability", "learning", and "impact" are an important focus, followed by "teacher education" and "country", which show attention to teacher education and the country context. Keywords such as “human rights”, “peace”, and “non-violence” have significant density, indicating attention to issues of human rights, peace and non-violence. The emergence of the keywords “pandemic” and “covid” shows renewed interest in the impact of the pandemic. Overall, this visualization reveals the diversity of research in global citizenship education, with a primary focus on the role of education in forming responsible global citizens who are responsive to developing global issues.

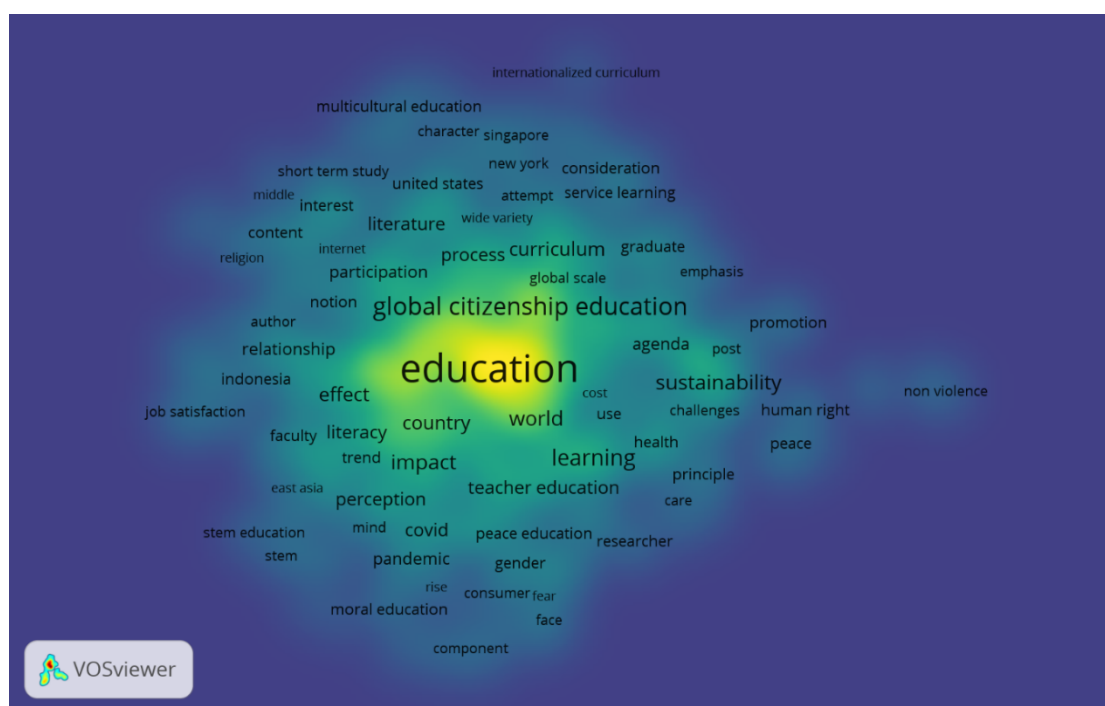


Figure 4. Density visualization

Based on visualizations from VOSviewer, research trends in global citizenship education show that the topics of "education" and "global citizenship education" dominate the literature, indicating a primary focus on education in general and global citizenship education in particular. This research also shows the close relationship between global citizenship education and issues of sustainability, human rights, and peace, which is reflected in keywords such as "sustainability", "human rights", and "peace". Increased attention to new issues such as the impact of the pandemic can be seen from the emergence of the keywords "covid", "pandemic", and "job satisfaction". In addition, teacher training and the integration of global citizenship concepts in the curriculum are important focuses, as indicated by the keywords "teacher education" and "curriculum". The research also covers aspects of literacy, relationships between institutions, and regional contexts, for example in the keyword clusters "literacy", "faculty", "relationship", and "indonesia". Overall, this visualization reveals that global citizenship education is a dynamic and growing field, with many opportunities for the exploration of new issues and a more holistic, multidisciplinary approach, aimed at forming global citizens who are responsible, inclusive, and responsive to issues. a global issue that continues to develop.

Conclusion

This research analyzes the development of Global Citizenship Education (GCED) research through bibliometric mapping using VOSviewer. Articles were collected from the Google Scholar database with the Publish or Perish application to observe topic trends. This research analyzed the Google Scholar database for 10 years (2013-2023), producing 969 articles. The results of data analysis show a significant decrease in the number of publications, from 131 in 2013 to 21 in 2023. However, analysis using VOSviewer revealed the existence of 597 items, 12 clusters, 17,920 links, and a total link strength of 26,143. The complexity of these connections suggests potential for further development, offering opportunities for exploration of new topics and research innovation. Although interest in Global Citizenship Education is declining, these findings demonstrate that this topic is still relevant and has significant

connections to research innovation. Thus, GCED still has a significant impact in achieving sustainable development goals. Therefore, it is hoped that further research in this area can continue to support the achievement of sustainable development goals and contribute to overcoming global issues. These findings show that there are still many research topics that can be explored and developed, making this review a starting point for research in other related fields.

References

- Ahmed, E. I., & Mohammed, A. (2022). Evaluating the impact of global citizenship education programmes: A synthesis of the research. *Education, Citizenship and Social Justice*, 17(2), 122-140.
- Akkari, A., & Maleq, K. (2020). Rethinking global citizenship education: A critical perspective. *Global citizenship education*, 205.
- Al'Abri, K. M., Ambusaidi, A. K., & Alhadi, B. R. (2022). Promoting global citizenship education (GCED) in the Sultanate of Oman: An analysis of national policies. *Sustainability*, 14(12), 7140.
- Al'Abri, K., Al-Ghaithi, B., Al-Ghafri, A., & AlBarashdi, H. (2024). Achieving sustainable development by promoting Global Citizenship Education (GCED): the role of school principals. *Globalisation, Societies and Education*, 1-14.
- Amin, H., Zaman, A., & Tok, E. (2023). Education for sustainable development and global citizenship education in the GCC: a systematic literature review. *Globalisation, Societies and Education*, 1-16.
- Andrews, K., & Aydin, H. (2020). Pre-service teachers' perceptions of global citizenship education in the social studies curriculum. *Journal of Social Studies Education Research*, 11(4), 84-113.
- Anguelovski, I., Shi, L., Chu, E., Gallagher, D., Goh, K., Lamb, Z., ... & Teicher, H. (2016). Equity impacts of urban land use planning for climate adaptation: Critical perspectives from the global north and south. *Journal of Planning Education and Research*, 36(3), 333-348.
- Blackmore, C. (2016). Towards a pedagogical framework for global citizenship education. *International Journal of Development Education and Global Learning*, 8(1).
- Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., ... & Paskevicius, M. (2020). A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis. *Asian Journal of Distance Education*, 15(1), 1-126.
- Brunell, L. A. (2013). Building global citizenship: Engaging global issues, practicing civic skills. *Journal of Political Science Education*, 9(1), 16-33.
- Caena, F., & Redecker, C. (2019). Aligning teacher competence frameworks to 21st century challenges: The case for the European Digital Competence Framework for Educators (Digcompedu). *European journal of education*, 54(3), 356-369.
- Dwivedi, Y. K., Hughes, D. L., Coombs, C., Constantiou, I., Duan, Y., Edwards, J. S., ... & Upadhyay, N. (2020). Impact of COVID-19 pandemic on information management research and practice: Transforming education, work and life. *International journal of information management*, 55, 102211.

- Edwards Jr, D. B., Sustarsic, M., Chiba, M., McCormick, M., Goo, M., & Perriton, S. (2020). Achieving and monitoring education for sustainable development and global citizenship: A systematic review of the literature. *Sustainability*, 12(4), 1383.
- Estellés, M., & Fischman, G. E. (2021). Who needs global citizenship education? A review of the literature on teacher education. *Journal of Teacher Education*, 72(2), 223-236.
- Franch, S. (2020). Global citizenship education: A new ‘moral pedagogy’ for the 21st century?. *European Educational Research Journal*, 19(6), 506-524.
- Goren, H., & Yemini, M. (2016). Global citizenship education in context: Teacher perceptions at an international school and a local Israeli school. *Compare: A Journal of Comparative and International Education*, 46(5), 832-853.
- Goren, H., & Yemini, M. (2017). Global citizenship education redefined—A systematic review of empirical studies on global citizenship education. *International Journal of Educational Research*, 82, 170-183.
- Horey, D., Fortune, T., Nicolacopoulos, T., Kashima, E., & Mathisen, B. (2018). Global citizenship and higher education: A scoping review of the empirical evidence. *Journal of Studies in International Education*, 22(5), 472-492.
- Kidd, J. (2023). *Implementing global citizenship education: A case study of exemplary practices, opportunities, and challenges* (Doctor of Education in Secondary and Middle Grades Education Dissertations).
- Kolleck, N., & Yemini, M. (2020). Environment-related education topics within global citizenship education scholarship focused on teachers: A natural language processing analysis. *The Journal of Environmental Education*, 51(4), 317-331.
- Lozano, R., Ceulemans, K., Alonso-Almeida, M., Huisingh, D., Lozano, F. J., Waas, T., ... & Hugé, J. (2015). A review of commitment and implementation of sustainable development in higher education: results from a worldwide survey. *Journal of cleaner production*, 108, 1-18.
- Lozano, R., Lukman, R., Lozano, F. J., Huisingh, D., & Lambrechts, W. (2013). Declarations for sustainability in higher education: becoming better leaders, through addressing the university system. *Journal of cleaner production*, 48, 10-19.
- Milana, M., & Tarozzi, M. (2020). *Addressing global citizenship education (GCED) in adult learning and education (ALE)*.
- Morgan, H. (2020). Best practices for implementing remote learning during a pandemic. The clearing house: A journal of educational strategies, issues and ideas, 93(3), 135-141.
- Oxley, L., & Morris, P. (2013). Global citizenship: A typology for distinguishing its multiple conceptions. *British journal of educational studies*, 61(3), 301-325.

- Saleem, A., Deeba, F., & Raza, M. A. (2022). Global Citizenship Education: A New Approach to Global Citizenship Development. *PERENNIAL JOURNAL OF HISTORY*, 3(2), 392-409.
- Serdyukov, P. (2017). Innovation in education: what works, what doesn't, and what to do about it?. *Journal of research in innovative teaching & learning*, 10(1), 4-33.
- Sumida, S. (2022). Exploring SDG 4.7's monitoring framework: ESD and GCED in the case of Japan. *Globalisation, Societies and Education*, 1-17.
- Torres, C. A. (2015). Global citizenship and global universities. The age of global interdependence and cosmopolitanism. *European Journal of Education*, 50(3), 262-279.
- UNESCO. (2021). *Global Education Monitoring Report 2021/2: Non-State Actors in Education: Who Chooses? Who Loses?* [Report]. <https://gem-report-2021.unesco.org/>
- Wals, A. E. (2014). Sustainability in higher education in the context of the UN DESD: a review of learning and institutionalization processes. *Journal of Cleaner Production*, 62, 8-15.

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*Are You Truly Prepared? A Review and Policy Suggestions for University of
Technology Students Off-Campus Internships*

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Abstract

The integration of theory and practice in off-campus internships aimed to enhance students' professional competence and employability. However, pitfalls were identified in the implementation, such as unclear internship content, students' insufficient understanding of the internship site, and perfunctory pre-internship briefings, all contributing to suboptimal internship results. Therefore, the primary objectives of this study are as follows: 1. To investigate the execution status of tasks that school units needed to undertake before off-campus internships. 2. To explore system implementation, identify deficiencies, and propose specific policy recommendations. The study employed an online questionnaire survey, assessing interns from university sophomores to seniors in 2023, with a total of 1,026 valid responses. Data analysis was conducted using the SPSS statistical software. The results indicated that interns scored lowest in understanding the "organizational and departmental conditions within a company," "industry conditions," and "participation in pre-internship briefings," suggesting insufficient pre-internship briefing implementation by the school and a lack of student understanding of industry conditions and internship institutions. To address these issues, the study proposed the following recommendations: 1. Establish clear "Technical and Vocational College Student Off-Campus Internship Regulations," emphasizing mandatory attendance at pre-internship briefings to ensure students understand the industry. 2. Create a "Student Off-Campus Internship Self-Assessment Form" to strengthen collaboration between schools and internships through self-assessment, facilitating a smooth transition from internship to employment and achieving the teaching goals of technical and vocational college student off-campus internships.

Keywords: Off-Campus Internship, Industry-Academia Collaboration, Intern, Internship System, Internship Organization

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Introduction

Off-campus internships blend theoretical knowledge with practical skills to enhance students' professional capabilities and employability potential. However, several issues persist during the internship process, such as unclear internship objectives, inadequate pre-internship orientation for students, and perfunctory pre-internship briefings. These problems often result in ineffective internship outcomes. When students enter the workforce after graduation, they encounter a gap between the theoretical knowledge acquired in school and its practical application in the workplace. This discrepancy highlights a mismatch in the values, concepts, and work attitudes instilled by the school, resulting in a phenomenon commonly referred to as reality shock (Ko et al., 2014).

Off-campus internships are pivotal for developing students' practical skills and providing exposure to real work environments (Ou, 2021). Students engage in internships arranged by schools and matched with relevant companies or institutions to enhance their adaptability and competitiveness in the job market, mitigating the impact of transitioning from school to work (Sides & Mrvica, 2017).

Off-campus internships allow students to experience the workplace early, aiding in career decision-making and shortening the career exploration period (Department of Technological and Vocational Education, 2017). However, discrepancies exist between internship experiences and students' ideals, as summarized below:

I. Off-Campus Internships and Part-Time Work Often Blur the Lines, Resulting in Numerous Wage Disputes

While interns can technically be defined as laborers according to the "Labor Standards Act," their status becomes ambiguous due to the educational nature of internships. A survey conducted by the Taiwan Higher Education Union Youth Action Committee (2018) revealed that 80.3% of interns have an employment relationship with companies, yet 67.1% receive no salary or subsidy. Research indicates a positive correlation between paid internships and effectiveness (O'Higgins & Caro, 2021), whereas unpaid internships are negatively associated with job search time and job satisfaction (Crain, 2016).

II. The Regulatory Framework for Off-Campus Internships is Incomplete, Leading to Compromises in Students' and Companies' Rights and Interests

In an effort to protect students' rights, the Ministry of Education introduced the "Draft Law On Off-Campus Internship Education For Schools Above Junior College Level" in 2019, classifying internship roles into general and work-oriented types. However, this law lacks protection under the "Labor Standards Act" and requires cooperation from companies (Wu & Lin, 2020).

III. The Mechanisms for Assessing, Visiting, and Counseling Interns Often Lack Depth, Resulting in Limited Benefits From Internships

Schools must ensure students' growth during internships (Lei & Chen, 2021). Nevertheless, many schools rely on paper reports and counseling records for evaluation, lacking robust supervision (Huang, 2020). The Ministry of Education prioritizes quantitative assessment over qualitative evaluation, potentially creating a false impression of enhanced employability.

In conclusion, a comprehensive understanding of relevant regulations is imperative to reevaluate and refine internship systems and norms from the perspectives of industry, government, and academia. This endeavor will not only strike a reasonable balance to achieve the intended goals of internships but also garner widespread recognition from the industry. Moreover, schools must enhance their management and supervision of internships to ensure that outcomes accurately reflect students' learning achievements and effectively bridge the gap between educational and workplace demands. Hence, this study aims to: 1. Investigate the current status of pre-internship preparations by educational institutions; 2. Examine the implementation of internship systems, identify shortcomings, and propose specific policy recommendations.

Literature Review

Relevant Regulations on Internships

Technological and vocational colleges actively promote students' participation in off-campus internships to bridge the gap between theory and practice. This enables students to gain early insights into the industry and seamlessly integrate into the workforce after graduation. The Ministry of Education proposed the "Technical and Vocational Education School Law Draft" in 1984, executed the first phase of the "Technical and Vocational Education Reform Program" in 2009, and due to significant results, further initiated the "Second Phase of Technical and Vocational Education Reform Program" in 2013. This emphasized the importance of technological and vocational education. In 2015, the "Technical and Vocational Education Act" was promulgated by presidential order, aiming to narrow the gap between educational settings and industry demands (Chang & Chang, 2016). To enhance the overall policy of technological and vocational education, the "Third Phase of Technical and Vocational Education Reform Program" was planned in 2018, emphasizing industry-academia collaboration, linking the workplace, vocational training, and schools into a networked form of technological and vocational education to cultivate talents required by industries (Executive Yuan, 2021).

To enable students to experience the workplace early, cultivate correct work attitudes, inspire learning, and plan for future career development, while at the same time learning from enterprises, integrating theoretical teaching with practical application, strengthening students' professional interests, and developing professional practical skills (Department of Technological and Vocational Education, 2018), the Ministry of Education formulated regulations on off-campus internships. For instance, Article 44, Paragraph 1 of the "Senior High School Education Act" announced in 2013 explicitly states the need for strengthening internships in technical high schools. Furthermore, the "Technical and Vocational Education Act" promulgated in 2015 specifies that schools above senior high level conducting vocational education should design their professional courses in collaboration with industries. As stated in Article 12 of the Act, schools may open relevant internship courses based on the nature of departments, institutes, programs, or courses. If these internships are conducted off-campus, the school should determine the implementation methods, internship venues, faculty, credit recognition, counseling, and other related matters unless specified otherwise by laws or regulations. Therefore, the regulations related to off-campus internships demonstrate the importance of these internships and the mission entrusted by the government. In 2015, the Ministry of Education published the "Performance Assessment Measures for Internship Courses in Schools Above Junior College Level," that incorporated internship course assessment into school administration evaluations and conducted assessments according to

the school evaluation procedures or entrusted academic groups or professional evaluation organizations to conduct periodic evaluations regarding internship courses. (Please refer to Table 1 for details on regulations related to off-campus internships).

Table 1: Regulations Related to Off-campus Internships

Regulation	Publication Year	Target	Description
“Guidelines for Subsidies and Promotion of Industry-Academia Collaboration Projects by the Ministry of Education”	2007	Industry–Academia Collaboration Projects	Establish an education model based on studying and working, promoting the practical characteristics (on-the-job training) of technological and vocational education.
“Technical and Vocational Colleges Handling Industry–Academia Collaboration Special Class Matters”	2014	Industry–academia collaboration special class	Matters related to contracts, vendor qualifications and required procedures, counseling mechanisms, termination, and other relevant matters were specified.
“Regulations for Implementing Industry–Academia Collaboration in Schools Above Junior College Level”	2006	Schools Above Junior College Level	Related to off-campus internships in Articles 6 and 6-1 (amended in 2017).
“Guidelines for Technical and Vocational Colleges in Opening Off-Campus Internship Courses with Subsidies from the Ministry of Education” (abolished in 2016)	2009	Schools Above Junior College Level	Encourage colleges to open off-campus internship courses, specially formulated for this purpose.
“The Act of the Cooperative Education Implementation in Senior High Schools and the Protection of Student Participants’ Right”	2013	Senior High School Cooperative Education Students	Setting up the system of cooperative education, cooperative contracts, training agreements, safeguarding the rights of students in cooperative education, supervising the cooperation, and outlining penalties.
“Senior High School Education Act”	2013	Senior High Education	Article 44, Paragraph 1, specifies the need to strengthen general education, experiments, and internships in technical high schools.
“Implementation Measures for Internship Courses in Senior High Schools”	2014	Senior High Education	Established according to Article 44, Paragraph 2 of the “Senior High School Education Act.”

Regulation	Publication Year	Target	Description
“Technical and Vocational Education Act”	2015	Junior High to College	Article 1 emphasizes the practical characteristics of technological and vocational education, cultivating talents in various industries. Article 12 specifies that schools may open relevant internship courses based on the nature of departments, institutes, programs, or courses. Article 13 explains that competent authorities should conduct performance evaluations on internship courses conducted by schools.
“Performance Assessment Measures for Internship Courses in Schools Above Junior College Level”	2015	Schools above Junior College Level	Established according to Article 13, Paragraph 1 of the “Technical and Vocational Education Act.”

Source: Compiled by this study.

International Experiences and Regulations on Off-Campus Internships

In the United States, the U.S. Office of Personnel Management promotes the “Pathways Programs for Students and Recent Graduates to Federal Careers,” which offers opportunities for current students to intern with the federal government. Interns can receive partial compensation, and outstanding performers may transition to full-time positions (U.S. Office of Personnel Management, 2012b). This program is primarily driven by the hiring agency, requiring an internship contract with tasks relevant to the intern’s academic background. Internships can last up to a year, during which students accumulate work experience. If they meet the agency’s qualification review, they can become full-time employees within three months of completing the internship (U.S. Office of Personnel Management, 2012a).

The dual system’s basic concept originates from German educator Kerschensteiner’s work education theory, which aims for students to possess both theoretical knowledge and practical skills (Feng & Chen, 2006). The dual system’s vocational education training primarily occurs at business units, with two to three days dedicated to classroom learning for theoretical grounding. This approach allows students to complete their studies while aligning with industry realities, thereby enhancing their future employability (Chang & Yu, 2014).

In Switzerland, the duration of the dual system varies by industry, usually ranging from two to four years. Students must first find a company and then a school, planning where to learn specific professional skills. If a company agrees to cooperate, the mentor must be certified, and both parties must sign relevant contracts. The mentor uses their experience to help and guide the apprentice through regional exams (Chang & Tseng, 2014). Consequently, Swiss students entering the workforce have clear goals and, with their mentor’s help, obtain the Federal VET Diploma, which certifies comprehensive training in a specific professional field. This diploma serves as proof of their expertise, helping them find related jobs even if they become unemployed in the future (Yeh, 2013).

Chang and Lin (2017) reviewed the apprenticeship systems in Germany, Austria, and Switzerland through literature and found that each country imposes limitations on the number of participants in courses and training. Upon completing their training, interns can immediately enter the workforce. Additionally, all three countries require a certification exam after training to assess skills and knowledge (as shown in Table 2).

Table 2: Features and Analysis of Apprenticeship Vocational Education in Germany, Austria, Switzerland, and Taiwan

	Germany	Austria	Switzerland	Taiwan
Policy and Regulations	Vocational Education Law	Vocational Education Law	Federal Vocational Education Act	Technical and Vocational Education Act
Curriculum and Teaching	Framework teaching plan One-on-one teaching	Modular curriculum One-on-one teaching	Modular curriculum, small class size (less than 10 students) or one-on-one teaching	Competency-based curriculum without specified teacher-student ratio
Learning Outcomes	Primarily enterprise training supplemented by vocational school education, allowing for immediate employment and direct entry into the workforce.	Primarily enterprise training supplemented by vocational school education, allowing for immediate employment and direct entry into the workforce.	Primarily enterprise training supplemented by vocational school education, allowing for immediate employment and direct entry into the workforce.	Primarily vocational school education, cannot immediately enter the workforce, requires additional transition education
Workplace Performance and Skill Assessment	School graduation exam; qualified students receive a vocational school graduation certificate. After completing enterprise training, they receive a training qualification certificate. Both qualifications are needed to apply for the national vocational qualification certificate exam and to obtain the national vocational qualification certificate.	The work skills assessment includes a theoretical oral exam and professional practice. Passing the apprentice exam awards a vocational qualification certificate.	Passing rigorous exams by regional examination committees (similar to Taiwan's skills or technical competitions) awards vocational certification.	School graduation exam; qualified students receive a vocational school graduation certificate. There is no mandatory requirement to take the technician skills certification for national professional certification.

Source: Chang & Lin (2017). "Apprenticeship Training Systems in Germany, Austria and Switzerland: Implications for Taiwan's Vocational Education." *Taiwan International Studies Quarterly*, 13(1), 121-140.

Common Issues in Off-Campus Internships in Taiwan

The implementation of off-campus internships in Taiwanese technical high schools and vocational colleges has faced several deficiencies, preventing the internships from achieving their intended benefits and compromising student rights. In light of this, this paper compiles the following common deficiencies in off-campus internships at Taiwanese technical high schools and vocational colleges:

Unclear Internship Content Leading to Students Becoming Cheap Labor

Embodying the spirit of university autonomy, each school develops its unique characteristics and plans different types of off-campus internships, courses, teaching methods, and student learning approaches according to various professional fields. Some vocational colleges, considering cost factors, reduce teaching costs and expenses by heavily relying on off-campus internship credits, hastily initiating internships. This can result in arbitrary placements for students or require them to find their own internship companies (Chen, 2021; Chung & Hsu, 2019). Lei and Chen (2021) argue that companies may not invest the time and manpower needed to co-develop internship plans or provide individualized professional technical training. Moreover, educational institutions cannot enforce strict adherence to regulations by companies. If companies do not understand the internship system, and only the schools guide students and ensure compliance, the internship content may become meaningless, reducing students to cheap labor and possibly leading to a negative end to the internship.

One-Sided Internship Planning With Low Consensus Among Enterprise Mentors

Schools often have clear guidelines for pre-internship preparation. However, literature suggests that this one-sided planning by schools can lead to a disconnect with the companies, increasing the burden of cooperation. It is recommended that companies select suitable mentors to lead interns and work with schoolteachers to achieve consensus and understand the students' levels to provide tailored guidance. Chang and Wang (2016) and Yeh (2016) found that current internship arrangements are predominantly school-planned and involve mainly private enterprises, making quality control difficult. This affects the selection of internship placements and students' learning rights, ultimately impacting the effectiveness of off-campus internships.

Insufficient Pre-internship Training Reduces Internship Effectiveness

Chang and Wang (2016) divided internships into three stages, with the first stage being pre-internship preparation and matching internship opportunities. Students obtain off-campus internship information through school units, teacher recommendations, and company registrations. Departments then select and assess the relevance of these internships to their specialties, organize student briefings, company presentations, and site visits to establish internship relationships between students and companies. This process also involves ensuring that parents understand the significance of off-campus internships and gain their consensus and support. Chang et al. (2019) suggest that, before internships, teachers, industry mentors, and students have specific tasks. Teachers should hold pre-internship briefings to explain visit schedules, grading criteria, report content, group considerations, work regulations, and professional ethics. Industry mentors should attend these briefings to explain industry conditions, company organization, department functions, work regulations and ethics, and

standard operating procedures. Students should participate in these briefings to understand work regulations, professional ethics, internship work overview, industry conditions, company organization, department functions, and the importance of standard operating procedures.

Research Method

This study aims to investigate the current implementation status of pre-off-campus internship tasks by school units, propose practical strategies for internship promotion, and iteratively refine these strategies.

Subjects and Sampling Methods

The study employs literature review and document analysis methods. Relevant practical literature on “off-campus internship regulations” and the “current status of off-campus internships” from domestic and international sources is collected based on the research objectives. This includes compiling historical off-campus internship regulations, documents related to “promoting vocational school internship course field performance evaluation” (including representative school internal documents), comparing plans and documents related to domestic and international off-campus internship experiences and standards, and exploring the execution strategies of internships.

The questionnaire of this study was distributed to students participating in off-campus internships in colleges and above throughout Taiwan, using convenience sampling. The survey period was from May 10th, 2023 to July 16th, 2023. A total of 1,557 questionnaires were distributed, out of which 531 were from students who had not taken off-campus internship courses. The valid response rate was 65.8%, with 1,026 completed questionnaires returned.

Research Tools

The research employed a questionnaire survey method, using the “Investigation of Technological College Students’ Participation in Off-Campus Internship Courses” questionnaire as the research tool. The questionnaire was designed based on the research nature and literature review results, focusing on “pre-departure arrangements for off-campus internship courses.” The questionnaire utilized a Likert five-point scale scoring method, where respondents rated their agreement level based on the question statements regarding technological college students’ experiences and thoughts on participating in off-campus internship courses. The scale options were sequentially divided into 5, representing “Strongly Agree,” 4 for “Agree,” 3 for “No Opinion,” 2 for “Disagree,” and 1 for “Strongly Disagree.” Higher scores indicate a more positive experience in technological college students’ participation in off-campus internship courses, and vice versa.

Research Results

This study used SPSS 25.0 statistical software to analyze the data from 1,026 valid questionnaires collected. Here are the key findings:

Demographic Analysis of Participants

The statistical analysis focused on 1,026 students involved in internship courses, based on quantitative data from the questionnaire. Table 3 presents the demographic breakdown. Female students (51.1%) slightly outnumbered males (49.9%) in terms of gender distribution. The largest group of students came from the industrial cluster (30.3%), followed by the hospitality cluster (28.8%) and the business and management cluster (17.7%). Regarding entrepreneurship-related course credits, a higher percentage of students had not taken such courses (67.2%) compared to those who had (34.8%). Internship participation was highest among fourth-year students (48.8%), followed by third-year students (including summer breaks from third to fourth year) (38.9%). In terms of internship types, annual internships were the most common (50.1%), followed by semester internships (30.6%). For internship advisors, most students were supervised by full-time professors (65.4%), with specialized instructors also playing a role (23.6%). The primary method of finding internship placements was through student volunteering and enterprise selection (60.2%), although some internships were arranged entirely by departments or teachers (20.8%). Concerning compliance with labor laws, the majority of students indicated adherence (89.2%) rather than non-compliance (10.8%). Regarding payment, most students received basic wages (54.7%), while some received wages exceeding the basic amount (21.8%).

Table 3: Demographic Distribution of Students Participating in Internship Courses

(n=1026)

Background Variables	Category	Number of Respondents	Percentage (%)
Gender	Male	512	49.9%
	Female	514	51.1%
Field of Study	Industrial Cluster	308	30.0%
	Business and Management Cluster	182	17.7%
	Hospitality Cluster	295	28.8%
	Design Cluster	112	10.9%
	Maritime and Aquaculture Cluster	5	0.5%
	Agriculture, Forestry, Fisheries, and Animal Husbandry Cluster	12	1.2%
	Home Economics Cluster	31	3.0%
	Food Cluster	5	0.5%
	Foreign Language Cluster	71	6.9%
	Arts and Film Cluster	5	0.5%
Ever Taken Entrepreneurship-Related Course or Credits	No	689	67.2%
	Yes	337	34.8%
Period of Off-Campus Internship	1st Year (including summer break between 1st and 2nd year)	14	1.4%
	2nd Year (including summer break between 2nd and 3rd year)	112	10.9%
	3rd Year (including summer break between 3rd and 4th year)	399	38.9%
	4th Year	501	48.8%

Background Variables	Category	Number of Respondents	Percentage (%)
Type of Internship	Winter/Summer Internship	189	18.4%
	Semester Internship	314	30.6%
	Annual Internship	514	50.1%
	Other	9	0.9%
Role of Internship Supervising Teacher	Full-Time Professor in Department	671	65.4%
	Part-Time Professor in Department	113	11.0%
	Specialized Instructor	242	23.6%
Channel for Finding Internship Placements	Arranged Entirely by Department or Teacher	213	20.8%
	Student Volunteer with Enterprise Selection	618	60.2%
	Student Self-Search	184	17.9%
	Other	11	1.1%
	Whether the Daily Internship Hours Comply with Labor Laws (maximum 8 hours per day, total overtime not exceeding 12 hours; not exceeding 40 hours per week; no internship between 10 pm and 6 am)	Yes	915
	No	111	10.8%
Receive Hourly or Monthly Wages During Internship (Learning or Working Type)	No Salary Received	133	13.0%
	Receive Below Basic Salary	108	10.5%
	Receive Basic Salary	561	54.7%
	Receive Above Basic Salary	224	21.8%

Source: Compiled by this study.

Analysis of Each Stage Item

This study examines the attributes of the sample and the concentration trend of responses for each item through descriptive statistics of the mean and standard deviation. The results show the degree of agreement of students who participated in off-campus internship courses regarding the pre-departure phase, indicating the level of implementation of off-campus internship courses by the school. Among them, the two items with the highest level of agreement before the internship are “11. I have indeed signed the off-campus internship contract” and “12. I have indeed informed my parents or family members about the relevant internship course information.” The three items with the lowest level of agreement are “06. I indeed understand the current situation and departmental status of the company,” “05. I indeed understand the current situation of the industry,” and “01. I have participated in pre-internship briefings,” as shown in Table 4.

Table 4: Degree of Agreement of Students Participating in Off-Campus Internship Courses

Off-Campus Internship Course Items Corresponding to Each Stage	Degree of Agreement		
	Mean	Standard Deviation	Ranking
Pre-Internship			
01. I have participated in pre-internship briefings	4.19	.989	10
02. I indeed understand the overview of internship work content	4.22	.822	9
03. I indeed understand the internship work regulations	4.34	.743	5
04. I indeed understand the content of professional ethics	4.44	.689	4
05. I indeed understand the current situation of the industry	4.15	.809	11
06. I indeed understand the current situation and departmental status of the company	4.05	.896	12
07. I indeed understand the importance of standard operating procedures	4.31	.765	7
08. I indeed understand the format and content of internship reports	4.26	.825	8
09. I indeed understand the completion credits or hours of the internship course	4.47	.695	3
10. I indeed understand the ways to seek solutions if the internship course is not suitable	4.33	.788	6
11. I have indeed signed the off-campus internship contract	4.59	.666	1
12. I have indeed informed my parents or family members about the relevant internship course information	4.58	.667	2

Source: Compiled by this study.

Conclusion and Recommendations

As technology continues to advance, the significance of off-campus internships for vocational school students is becoming increasingly pronounced. However, the deficiencies and challenges encountered during the internship process, such as unclear internship content, interns' limited understanding of the industry, and the formalized nature of pre-internship briefings, significantly impact the quality and efficacy of internships. Through a questionnaire survey of sophomore to senior students in 2023, this study vividly highlights these issues and proposes specific policy recommendations to ameliorate the current scenario.

One recommendation from this study is the establishment of clear "Regulations for Off-Campus Internships for Vocational School Students." These regulations should not only mandate students' participation in pre-internship briefings to ensure they possess a fundamental understanding of the relevant industry. Still, they should also incorporate explicit safety and compensation provisions to safeguard students' rights throughout their internships.

Another vital step from this study is the development of a “Student Off-Campus Internship Self-assessment Form,” which plays a pivotal role in fostering collaboration between educational institutions and industries. This self-assessment tool can enhance students’ comprehension of internship organizations and facilitate a seamless transition from internship to employment, thereby aligning with the educational objectives of vocational education.

In conclusion, the implementation of clear internship regulations and assessment mechanisms is essential not only for enhancing internship quality but also for better serving students’ career development needs. Vocational schools should prioritize and implement these recommendations to nurture graduates capable of showcasing professional competence and innovation in today’s rapidly evolving work environment.

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References

- Chang, JC, & Chang, IS. (2016). The impact and response of the implementation of the Technical and Vocational Education Act on vocational education teachers. *Taiwan Education Review Monthly*, 5(4), 115-120.
- Chang, JC, & Lin, MF. (2017). Apprenticeship training systems in Germany, Austria and Switzerland: Implications for Taiwan's vocational education. *Taiwan International Studies Quarterly*, 13(1), 121-140.
- Chang, JC, & Wang, C. (2016). The current situation and empirical analysis of off-campus internship of technological colleges and universities in Taiwan. *Journal of Technological and Vocational Education*, 7(1), 23-47.
- Chang, JC, & Yu, TT. (2014). The enlightenments and implications of the German dual system for vocational education in Taiwan. *Taiwan International Studies Quarterly*, 10(3), 173-188.
- Chang, JC, Hsiao, HC, Chen, SC, Chen, TC, Sui, FM, Hou, CH, Liao, HL, Liao, FJ, Wang, IS, Huang, PC, Chen, YH, Kao, YC, & Kuo, CY. (2019). Development of students' problem-solving abilities in industry through practical projects and integration of off-campus internship courses. Taipei City: National Taipei University of Technology.
- Chen, FJ. (2021). Off-campus internships focused on student learning outcomes. *Taiwan Education Review Monthly*, 10(2), 98-104.
- Chung, IH, & Hsu, HK. (2019). Analyzing the promotion of off-campus internships for students in vocational colleges in Taiwan. *Taiwan Education Review*, 720, 27-38.
- Feng, TP, & Chen, HC. (2006). Dual-track vocational education in Germany after reunification. *Journal of Toko University*, 1(1), 27-44.
- Huang, HP. (2020). Rethinking off-campus internships in colleges and universities. *Taiwan Education Review Monthly*, 9(12), 13-16.
- Ko, YT, Wang, HH, & Chou, FH. (2014). Reflecting on intention to stay of new nurses from postmodernism. *Kaohsiung Journal of Nursing*, 31(1), 30-38.
- Lei, LW, & Chen, YC. (2021). Evolution and reflections on university internship systems: A case study of the Business and Management College of a technical university. *Taiwan Education Review Monthly*, 10(1), 13-16.
- Ou, YI. (2021). University off-campus internships during the pandemic. *Taiwan Education Review Monthly*, 10(1), 132-135.
- Wu, PH, & Lin, HY. (2020, April 20). Draft law on off-campus internships has been pending for 9 months. *Liberty Times*. <https://talk.ltn.com.tw/article/paper/1367013>

Yeh, CH. (2016). A study on disputes in student off-campus internships. *Taiwan Education Review Monthly*, 5(1), 137-139.

Yeh, YJ. (2013). Switzerland working people: Happiness for dream comes true. *Cheers*, 151, 102-109.

***Fostering Environmental Awareness Among Students:
Exploring the Impact of Civic Education in Indonesia***

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Abstract

This research examines how the implementation of Civic Education in Indonesia shapes environmentally conscious students. With a large population and expansive territory, the potential environmental issues in Indonesia are increasing. Education becomes one solution to address and prevent potential environmental damage that may arise in the future. This research relies on semi-structured interviews with Civic Education teachers and field visits to schools. Employing ecological citizenship theory and content analysis, interview data were scrutinized using an interpretative methodology. The results of the interviews indicate that teachers express commitment to shaping environmentally aware students. This commitment includes selecting teaching methods, assignments, and bringing in various environmental activists to inspire students. These practices form communities among students and enable them to advocate for environmental rights for themselves and others. Based on this analysis, I propose the term "Green Civic Education" to help us better understand various civic education forms oriented toward environmental sustainability.

Keywords: Green Citizenship Education, Environmental Awareness, Students

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Introduction

Environmental problems are one of the problems discussed throughout the world. The existence of pollution, climate change, and the loss of biodiversity became discussions at the UN (United Nations) forum until finally giving rise to the United Nations Environment Program (UNEP) as a body that promotes, helps, and encourages countries to pay attention to environmental sustainability.

Currently, it is discovered that human life is no longer in harmony with nature, this is evidenced by the increasingly low public awareness of protecting the environment. From data taken from research by Travis P. Wagner (Wagner, 2017), it is estimated that the world community throws away 5 trillion plastic bags waste every year, while in Indonesia it is stated that an average of 182.7 billion plastic bags are used in Indonesia every year. the year. Of this amount, plastic waste in Indonesia reaches 1,278,900 tonnes per year. Other data even shows that Indonesia is one of the largest contributors of waste in the world after China (Jambeck et al., 2015). However, data from the Central Statistics Agency (BPS) in 2018 shows an increase in imports of plastic waste in Indonesia by 141 percent, reaching 283 tons (Shafira et al., 2022).

Pollution continues to increase because people's awareness of synergy with nature is starting to weaken. Simple things like sorting waste are things that have not been fully implemented by people in Indonesia, so plastic processing manufacturers choose to import sorted plastic as raw material rather than relying on waste from Indonesia. Another fact about low awareness among the public is the discovery that the use of imported waste which should be used as production material is also used by the community as fuel for small industries in East Java because only 60% of the imported waste can be processed by factories as raw materials so the remaining 40% is purchased. by small industries for fuel. This is dangerous because it triggers the release of dioxin and furan compounds, both of which are carcinogens that cause lung cancer. This is certainly bad for the air in East Java (Protes Sampah Impor, Massa di Jatim Geruduk Konjen Amerika, 2019).

From data obtained from the waste processing system of the Ministry of Environment in Madiun City, it is known that plastic is the third largest waste produced by Madiun City residents, and what is worse is that this waste is still mixed with other waste, including organic waste. This proves that public awareness of caring about the environment is low, even simple things such as sorting waste are still not prioritized.

The importance of raising awareness of environmental management has made the mayor of Madiun encourage schools in the city of Madiun to raise environmental awareness for their students, one of which is by creating waste banks in every school, including every junior high school. However, from the data processed by researchers through observation, it is known that even though there is a waste bank at school, students only want to deposit plastic waste into the waste bank if there is an order from the teacher/school, otherwise, they prefer to throw it in the trash can closest to their position. they. Apart from that, even though they see their friends throwing rubbish not in the right place, students do not feel obliged to remind them. Another fact found during observations was that almost all students who bought food in the school canteen chose to use plastic wrap to wrap their food/drinks rather than using the plates/glasses provided. So from this, it is known that the Ecological citizenship competency which consists of student participation, awareness and responsibility regarding students' environmental awareness still needs to be improved again (Karatekin & Uysal, 2018).

In general, improving this lack of environmental awareness can be done in two ways, namely the first through establishing regulations regarding environmental sustainability (Dobson, 2007) However, as Dobson said, regulations will only temporarily change people's behavior and will not last long following the validity period of the incentives. These temporary results occur because environmental awareness does not become a character that is closely attached to a person who is obtained from full awareness of his actions (Dobson, 2007).

So it would be better to protect the environment if efforts are made through the education sector. education is considered appropriate for overcoming environmental problems because environmental problems are related to various aspects such as politics, law, and technology (Krasny et al., 2015; Quinn et al., 2016). Junior High School (SMP) is the right choice because it educates behavior because at that phase students are in the transition period from children to adults. During this transition period, quite a few cases of behavioral decline emerged, for this reason, this research focuses on junior high school students so that during this transition period, education for environmental sustainability that has been instilled in the elementary school phase of children is not interrupted and declines (Agustiawan & Dyah Puspitasari, 2019).

Methods

This research is descriptive qualitative, using a case study method or approach, focusing on citizenship education learning at the Junior High School in the city of Madiun, Indonesia. Case study data can be obtained from all parties directly related to the learning of Citizenship Education, such as teachers and students who were selected using the purposive sampling method. Researchers used semi-structured interview techniques and documentation in the form of photos to collect research data. Interviews are carried out by asking informants to explore and obtain information related to the required data. The data analysis techniques used in this research are data reduction, data display, data conclusion drawing/verification. To test the validity of the data, source triangulation was used.

Implementation of Citizenship Education to Form Environmental Awareness in Indonesia

Citizenship education is a subject at every level of education in Indonesia, from elementary to higher education. The general objectives of Citizenship Education can be explained as follows. First, understand and appreciate Pancasila as the basis of the state and way of life of the Indonesian people. Citizenship Education encourages students to apply Pancasila values in everyday life and play an active role in building a just, civilized and harmonious society. Second, know and understand the government system, laws and state policies as well as the roles and responsibilities of citizens in maintaining the integrity of the state and participation in democratic life. Third, develop attitudes and behavior that reflect a good personality, such as a sense of responsibility, concern for others, honesty, discipline, tolerance, justice and a spirit of mutual cooperation. Fourth, carry out their obligations and rights as a citizen properly, such as the right to vote and be elected, the right to education, the right to have an opinion, and the obligation to pay taxes and obey the law. Fifth, understand and appreciate the diversity of culture, religion, ethnicity and race in Indonesia as capital for building national unity and unity. By achieving these goals, Citizenship Education plays an important role in shaping the character of students who become good citizens, intelligent, skilled and have character in accordance with Pancasila values such as: 1. Think creatively, rationally and critically in responding to citizenship issues. 2. Play an active role responsibly,

intelligently and consciously in national and state activities. 3. Show the character of Indonesian society which supports democracy.

In implementing Citizenship Education subjects, the curriculum divides the competencies to be achieved into three main groups, namely: (1) The ability to master civic knowledge. This competency is related to students' understanding of the concepts, principles and values that underlie civic life. Students are expected to gain knowledge about Pancasila, the 1945 Constitution of the Unitary State of the Republic of Indonesia, the government system, laws and state policies, as well as 14 other aspects relevant to citizenship; (2) The ability to have citizenship skills, this competency involves developing students' skills in participating actively and responsibly in the life of society and the state. Students are expected to be able to think critically, communicate effectively, work together in teams, respect differences, manage conflict constructively, and use information and communication technology wisely; (3) The ability to appreciate and develop civic character. This competency emphasizes the formation of students' character as good citizens. Students are expected to be able to internalize and apply the values of honesty, discipline, responsibility, caring for others, tolerance, justice and the spirit of mutual cooperation in everyday life.

Citizenship education in Indonesia has a broad scope and involves aspects that include legal, political, constitutional values and global challenges in the modern era. In this case, issues and material regarding environmental sustainability are directly related to the four consensus issues. In the Pancasila view, of course we need to consider that all Indonesian citizens are individuals who believe in God, and need to preserve what their god has created. And in the second consensus regarding the 1945 Constitution of the Republic of Indonesia, the environmental content is in the concept of the Green Constitution as formulated in Article 28H Paragraph (1) of the 1945 Constitution of the Republic of Indonesia which reflects the third generation of human rights, namely collective rights and development rights, in the form of rights to the environment, as well as Article 33 paragraph (4) of the 1945 Constitution of the Republic of Indonesia which reflects sustainable environmental development in Indonesia in a constitutional manner. Pancasila and Citizenship education must also be able to teach students to understand the applicable norms and rules so that they can behave following these norms and rules, both in the family, school and community environments. An obedient attitude in the family environment can be reflected in an obedient attitude towards parents, in the school environment by obeying the applicable rules, and in the community environment by respecting the applicable norms. Including norms that have persisted in Indonesian culture regarding environmental sustainability. If analyzed in depth, the content of environmental awareness material in Citizenship Education in Indonesia is shown in table 1 below (Usmi & Murdiono, 2021).

Grades	Chapters	Ecological Citizenship Content	Information
VII	Chapters 5: Cooperation in various areas of life Chapter 6: Regions within the Archipelagic State of The Indonesian Republic	Figures 5.1 Cooperation of the community to clean the environment due to flash flood Figures 5.3 Cooperation in a community in reforestation and bridge building Nationality info table that explains potential national security disturbances, one of which is environmental destruction	Ecological citizenship content is contained in the form and description of images and info tables. However, it is only contained in two chapters of the six chapters of the VII graders' book material.
VIII	Chapters 6: National commitment	A brief description of the form of love for the homeland, including (1) preserving the environment and preventing environmental pollution; (2) managing natural wealth by preserving ecosystems	The content of ecological citizenship is contained in the form of a brief description. However, that is only contained in one chapter of the sixth chapters of VIII graders' students textbooks
IX	Chapter 1: The dynamics of the embodiment of Pancasila as the basis of the state and the nation's view of life Chapter 6: Defending the country in the context of the Archipelagic State of the Indonesian Republic	Figure 1.5 The atmosphere of cooperation in a community activity in the community cleaning the environment (p. 20) Brief description of potential threats in the form of natural resources accompanied by picture 6.13 illegal logging	The content of ecological citizenship is contained in the form of a brief description. However, that is only contained in one chapter of the sixth chapters of VIII graders' students textbooks

Table 1. Chapters VII-IX Students Book Materials Containing Ecological Citizenship Content. (Usmi & Murdiono, 2021)

From the citizenship education material which is related to environmental sustainability, the teachers develop citizenship education learning in their classes into citizenship education learning which is oriented towards forming environmental awareness as shown in Table 2 below.

Learning Components	Teacher Actions
Civic Knowledge	<ol style="list-style-type: none"> 1. The teacher invites students to understand the rules and regulations regarding cleanliness, health and tidiness at school. 2. The teacher invites students to analyze Indonesian state legislation relating to environmental sustainability
Civic Skills	<ol style="list-style-type: none"> 1. Teachers implement learning by utilizing various learning models such as <i>outdoor learning</i> , <i>Project Citizen</i>, and <i>Service learning</i> to bring students closer to the surrounding environment 2. Give assignments to students to promote environmentally friendly behavior 3. Holding a plastic waste recycling creation competition that students must take part in 4. Hold environmental clean-up sessions outside the school 5. By using technology, students show off their recycled products.
Civic Character	<ol style="list-style-type: none"> 1. Teachers always observe and encourage students to obey the rules regarding cleanliness, health and tidiness 2. Encourage classes to have well-managed classroom waste containers

Table 2. Development of Citizenship Learning in Indonesian Junior High Schools to Form Love for the Environment

What has been done by junior high school teachers in Indonesia reflects efforts to achieve the concept of Ecological Citizenship. We can interpret ecological citizenship as a citizenship concept that encourages individuals, communities and organizations as world citizens to consider their rights and responsibilities towards the environment. This means recognizing that every individual has a moral obligation to maintain environmental sustainability and play a role in overcoming existing environmental problems. Ecological citizenship teaches the importance of awareness of the impact of human activities on ecosystems and how we as world citizens can contribute to maintaining environmental sustainability for future generations (Karatekin & Uysal, 2018).

Conclusion

Citizenship education is a subject that equips citizens to have the knowledge, skills and character to support welfare and solve community problems, including the environment. To teach environmental awareness to students, teachers make adjustments to the curriculum, lesson materials and learning methods. Considering that what is being done is still far from the dream of putting into practice the concept of Ecological Citizenship, we call the efforts of civic education teachers to form environmental awareness Green Civic Education.

References

- Agustiawan, H., & Dyah Puspitasari, E. (2019). Pembentukan karakter siswa SMP melalui literasi sains. *Prosiding Symbion*, 273–281.
- Dobson, A. (2007). Environmental citizenship: towards sustainable development. *Sustainable Development*, 15(5), 276–285.
- Karatekin, K., & Uysal, C. (2018). Ecological citizenship scale development study. *International Electronic Journal of Environmental Education*, 8(2), 82–104.
- Krasny, M. E., Silva, P., Barr, C., Golshani, Z., Lee, E., Ligas, R., Mosher, E., & Reynosa, A. (2015). Civic ecology practices : insights from practice theory. 20(2).
- Protes Sampah Impor, Massa di Jatim Geruduk Konjen Amerika. (2019). CNN Indonesia. <https://www.cnnindonesia.com/nasional/20190712174254-20-411673/protes-sampah-impor-massa-di-jatim-geruduk-konjen-amerika>
- Quinn, F., Castéra, J., & Clément, P. (2016). Teachers' conceptions of the environment: anthropocentrism, non-anthropocentrism, anthropomorphism and the place of nature. *Environmental Education Research*, 22(6), 893–917. <https://doi.org/10.1080/13504622.2015.1076767>
- Usmi, R., & Murdiono, M. (2021). Ecological citizenship in the textbook of Pancasila and Civic Education subjects at secondary level school. *Jurnal Civics: Media Kajian Kewarganegaraan*, 18(2), 242–256. <https://doi.org/10.21831/jc.v18i2.38885>

Pancasila Student Profile Strengthen Project as a Forum for Developing Transferable Skills in Indonesian Vocational Secondary Schools

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Abstract

Merdeka Curriculum is a manifestation of systemic changes in Indonesian education that was implemented in 2021 until it became the national curriculum in 2024. One of the spirits in this curriculum is the Pancasila Student Profile Strengthen Project (P5). P5 aims to internalize the character of the Pancasila student profile, which has seven themes, one of which is typical for vocational secondary school students, which is employment. This theme facilitates students in developing an understanding of employment, job opportunities, and work readiness as transferable skills. The focus of this study is to describe P5 as a forum for developing students' transferable skills in vocational secondary schools that implement the Merdeka Curriculum in Kediri City and explore student's perceptions. The teachers choose the P5 theme to pair with the Pancasila student Profile dimension to achieve the desired transferable skills. This article provides several examples of the P5 theme—93 grade X Mechanical Engineering students filled in questionnaires. Quantitative descriptive data analysis techniques were used to determine the mean indicators of transferable skills. The results of the study show that students' perspectives on indicators of transferable skills are leadership and responsibility (3.26), having initiative and being able to self-manage (3.20), communication (3.16), flexibility and adaptability (3.10), critical thinking and problem-solving (3.10), collaboration (3.10). P5 is the right forum for developing transferable skills in vocational secondary schools, as shown by positive student responses.

Keywords: Merdeka Curriculum, Pancasila Student Profile Strengthen Project (P5), Pancasila Student Profile, Transferable Skills

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Introduction

Research Background

Indonesia faces three challenges. The first challenge is the Industrial Revolution 4.0, which currently relies on cyber-physical systems. Manual work that relies on human power has been replaced by machines and information technology (Kementerian et al., 2016). McKinsey and Company (2019) state that by 2030, there will be four million to 23 million new jobs, of which ten million jobs require innovation. Machines and information technology have replaced the disappearance of several old types of work (manual). The rapid development of information technology has also given rise to new types of work.

The second challenge is globalization, especially the implementation of the ASEAN Economic Community (AEC), which is intended to build a single market and production base in ASEAN. Therefore, the obstacle of capital flow, goods, services, investment, and skilled workers will be cut (Mulyana, 2016) so that the AEC has the opportunity to increase mobility and free labor competition among ASEAN member countries (Kementerian et al., 2016). AEC has an impact on human resource development, namely increasing the need for skilled workers and decreasing the need for unskilled workers. It is estimated that from 2010 to 2025, the demand for skilled workers in the ASEAN region will increase by around 41% or around 14 million people. Indonesia's needs around seven million people. According to the AEC scenario, there will be an increase to the employment opportunities of 1.9 million (around 1.3% of total employment) in Indonesia in 2025 (Labour Organization & Development Bank, 2015).

The third challenge is the demographic bonus. The results of the Population Census in September 2020 recorded that Indonesia's population is 270.200 million people. (Badan Pusat Statistik, 2021). This bonus is a logical consequence of the 100th anniversary of Indonesia's independence in 2045, which can be both an opportunity and a threat. It is a threat if this bonus is not prepared properly, and social problems will arise, such as unemployment, low quality of health, poverty, high crime rates, and unemployment. On the contrary, it becomes an opportunity if the young generation is aware to their potential and cares about the future of their country. Indonesia can become one of the world's largest markets. When the number of productive ages increases, the number of potential workers also increases. These workers will drive the economy so that the opportunities for economic growth are getting greater. Indonesia must work in this productive age by improving the quality of human resources in mastering technology, the ability to transform energy, and be innovative and creative (Nurmillah, 2021).

Research Purposes

This study aims to describe P5 in Indonesia as a forum for developing transferable skills and exploring the perception of transferable skills of vocational secondary school students in Kediri City. This research is a type of quantitative descriptive research. The research respondents were 93 grade X Mechanical Engineering students at a technology vocational secondary school that implemented the Merdeka Curriculum in 2021. The research carried out 2023. Descriptive statistics, including mean, standard deviation, and rank, are used to analyze the research findings. The explanation of the mean score is based on four Likert scale questionnaires, from strongly disagree to strongly agree, and the total mean score analysis is based on the six aspects of the measured transferable skills.

Literature View

Merdeka Curriculum

The curriculum has power to change educational thinking and practice (Gobby, 2022), transform education (Mateo et al., 2022), determine the material taught in the classroom, and influence teaching methods based on student needs (Sarbicki, 2020), guide social change and quality education (Connell, 2010), and improving the education system (Mohanasundaram, 2018). For this reason, the Ministry of Education, Culture, Research and Technology developed the Merdeka Curriculum as an effort to restore learning from the crisis that has long experienced. The Merdeka Curriculum is a curriculum that provides students with sufficient time to strengthen competencies and deepen concepts through a variety of intra-curricular learning (Kemendikbudristek, 2021a). Teachers have the freedom to choose various teaching tools that can be adapted to student's learning needs and interests. The noble values of Pancasila, which are the basis of the Indonesian state, are internalized by students through the Pancasila Student Profile (in Indonesia, known as PPP). To strengthen this profile, learning is packaged in the form of projects based on certain themes determined by the government. The project is not directed at achieving specific learning achievement targets, so it is not tied to subject content.

Pancasila Student Profile Strengthen Project

Pancasila student profile strengthen project (P5) is a contextual cross-disciplinary project-based co-curricular activity designed to strengthen efforts to achieve competency and efforts to realize character in accordance with PPP (Kemendikbudristek, 2022b). P5 is a strengthening activity as an effort to develop PPP which provides opportunities for students to "experience knowledge" as a process of strengthening character and opportunities to learn from the surrounding environment. Students will learn to study certain themes that are priorities each year, one of which is the theme of employment which is a mandatory theme in vocational secondary schools. The employment theme aims to enable students to connect the various knowledge they have understood with real experience in daily life and the working world, build understanding of employment, job opportunities and work readiness to improve capabilities in accordance with their skills, refer to the latest needs of the working world, hone awareness of attitudes and behavior in accordance with the standards required in the working world.

Pancasila Student Profile

Pancasila Student Profile (PPP) is developed through various strategies that complement and strengthen each other, namely educational unit culture, learning activities, and co-curricular activities in the form of learning through projects. Pancasila Student Profile Strengthen Project (in Indonesia, known as P5) is a contextual cross-disciplinary project-based co-curricular activity designed to strengthen efforts to achieve competency and efforts to realize character in accordance with PPP (Kemendikbudristek, 2021b). P5 is a strengthening activity as an effort to develop PPP, which provides opportunities for students to "experience knowledge" as a process of strengthening character and opportunities to learn from the surrounding environment. Students will learn how to study at certain themes that are priorities each year, one of which is the theme of employment, which is a mandatory theme in vocational secondary schools.

Transferable Skills

In the working world, more companies are looking for prospective workers who have transferable skills in addition to education and technical requirements (Collins-Nelsen et al., 2022). According to ESCO (European Skills/Competences, Qualifications, and Occupations), the competency needed in the working world is the ability to engage oneself effectively in a goal-directed manner with other people, such as colleagues, partners, customers, clients, or patients. These competencies are called transversal skills (Noack, 2021). A survey of more than 2000 businesses in Washington found that many companies said that new workers (entry-level) in various types of professions could be needed to solve problems, resolve disputes, and observe critical/sensitive situations. In addition to hard skills, the job seeker abilities that must be have are communication skills, teamwork and collaboration, adaptability, problem-solving, critical observation, and conflict resolution (Laras Luhur Indonesia, 2021).

Transferable skills are built from the transfer of learning theory and constructivist theory. Learning transfer theory explains how individuals will transfer knowledge, skills, and experiences gained in one context to another. The assumption built from this theory is that the application of knowledge, skills, and experience depends on the similarity of the learning context or task (Agyemang, 2019). Constructivist theory does not focus on knowledge as a product but on the process of knowing. The essence of constructivist theory is that students do not discover knowledge, but rather, they construct knowledge (Boghossian, 2006). The teacher's task is not to impart knowledge but to provide opportunities and incentives to build it (Fosnot & Perry, 2005). The concept of constructivism is a theory of knowledge and learning where individuals produce their knowledge and construct knowledge in the process of dealing with problems. This means that students are connected to new ideas, namely knowledge as a process. Transferable skills require the ability to transfer knowledge, skills, and experience acquired in one context to another. In this transfer process, the ability to construct knowledge is needed.

In the Merdeka Curriculum, the way to integrate transferable skills is through a co-curricular learning curriculum structure in the form of P5 work employment. Transferable skills on the employment theme are juxtaposed with the PPP. We hope that student’s output will be formed that is ready to work and has Pancasila character as in Figure 1.

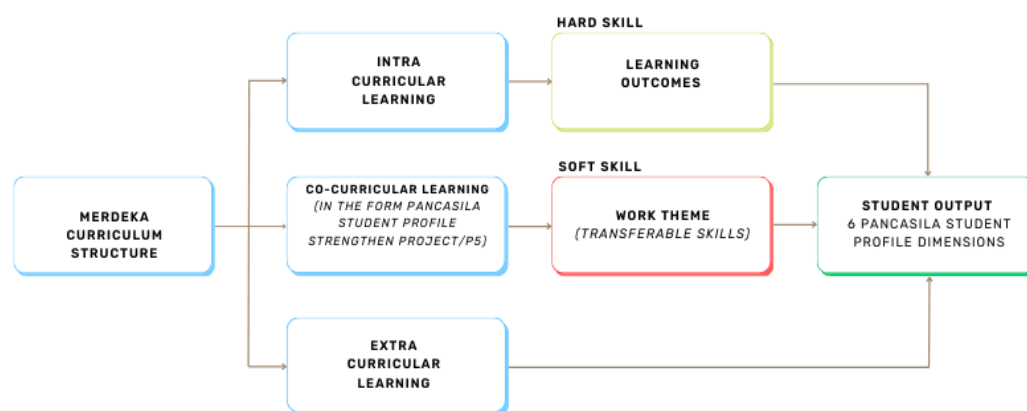


Figure 1: Transferable skills integration through P5

Conclusion

Main Findings

We have six projects in P5, which are connected by six dimensions of PPP and seven transferable skills, as in Table 1. We have the freedom to choose them based on the goals we want to achieve.

Table 1: Synchronization of P5, PPP, and transferable skills

Pancasila student profile strengthen project P5	Pancasila Student Profile PPP	Transferable skills
Self-concept	Creative	Creativity and innovation
Equal worker's right	Cooperation	Initiative and self-manage
Communication	Self-reliance	Leadership and responsibility
Quality appearance and professional attitude	Global Diversity	Communication
		Collaboration
Work ethic	Critical thinking	Critical thinking and solving problem
Self-management	Religious	Flexibility and adaptability

These are descriptions of P5 as a forum to develop transferable skills:

1. Self-concept project (Figure 1) is to achieve creative dimensions of PPP in creativity and innovation transferable skills. Students are asked to get to know their nature and character through activities to remove mental blocks. Creativity and innovation are about having flexible thinking and finding alternative solutions to problems.
2. The Equal Worker's Rights Project (Figure 2) aims to achieve the cooperation dimensions of PPP in initiative and self-manage transferable skills. Students are given a case study of sexual harassment in a company. They are asked to identify obstacles and challenges in resolving sexual harassment cases.
3. The communication project (Figure 3) aims to achieve the self-reliance dimensions of PPP in collaboration and communication transferable skills. Students identify the minimum requirements for communicating in the workplace through the activity of describing the contents of their bedroom. Two students turn back to each other. The first student clearly describes the content of his room. The second student describes the contents of the room in the first person.
4. Quality appearance and professional attitude project (Figure 4) to achieve global diversity dimensions of PPP in leadership and responsibility transferable skills, students apply their body language such as facial expressions, eye contact, voice intonation, how to walk, body movements, and handshakes. This project aims to enable students to understand that inappropriate body language in front of other people can give rise to conflict because of a misunderstanding in interpreting it.
5. Work ethic project (Figure 5) to achieve critical thinking dimensions of PPP in thinking and problem-solving transferable skills. Students implement 5S ('seiri' means sort, 'seiton' means set, 'seiso' means shine, 'seiketsu' means standardize, 'shitsuke' means sustain) in the workshop. Students are expected to be able to foster a positive culture in implementing 5S.
6. Self-management project (Figure 6) to achieve religious dimensions of PPP in flexibility and adaptability transferable skills. Students interpret the concept of work and identify the purpose of work. Students can find out the reasons why they work.



Figure 2: Several examples of the P5 theme

The survey results of 93 students from a vocational secondary school regarding the perspective of the work theme are presented in Table 2. The items for each perspective indicator were developed from the Indonesian National Work Competency Standards (SKKNI), namely a workability formulation that includes aspects of knowledge, skills, and expertise as well as work attitudes that are relevant to the implementation of the specified duties and position requirements (Kementerian et al. Indonesia, 2018).

Table 2: Overall perception on transferable skills

No	Indicators	Mean
I	Leadership and responsibility	3.26
II	Initiative and self-manage	3.20
III	Communication	3.16
IV	Critical thinking and problem-solving	3.10
V	Collaboration	3.10
VI	Creativity and innovation	3.10
VII	Flexibility and adaptability	3.10

P5 is a new learning method, and it is very important to know students' perspectives regarding aspects of skills in P5. The survey results in Table 2 show that students' perspectives on transferable skills indicators are leadership and responsibility (3.26), initiative and self-manage (3.20), communication (3.16), critical thinking and problem-solving (3.10), collaboration (3.10); creativity and innovation (3.10), flexibility and adaptability (3,10).

Details for each indicator are presented in Table 3.

Table 3: Perspectives on employment theme

No	Indicators	Mean	Standard Deviation
I	Initiative and self-manage		
1	Form a positive self-concept at work	3.19	0.516
2	Building integrity as a professional workforce	3.14	0.502
3	Build persistence in work	3.12	0.508
4	Develop the ability to manage emotions	2.97	0.616
II	Flexibility and adaptability		
1	Improve your ability to manage time according to work demands	3.05	0.539
2	Improve ethical standards and etiquette in the work environment	3.19	0.516
3	Develop abilities in facing challenges in the workplace	3.16	0.495
III	Leadership and responsibility		
1	Forming responsibility and commitment at work	3.26	0.509
IV	Critical thinking and problem-solving		
1	Develop critical thinking skills in solving problems and finding solutions	3.10	0.468
V	Communication		
1	Build effective communication skills	3.16	0.495
VI	Collaboration		
1	Ability to work together in a team	3.24	0.559
2	Basic skills in leading small groups	2.96	0.658
VII	Creativity and innovation		
1	Developing the ability to take initiative at work	3.10	0.468

An indicator of leadership and responsibility is forming responsibility and commitment at work. Indicators initiative and self-manage are forming a positive self-concept at work, building integrity as a professional workforce, and developing the ability to manage emotions. Indicators of flexibility and adaptability are improving the ability to manage time according to work demands, improving ethical standards and etiquette in the work environment, and developing abilities to face challenges in the workplace. Indicator leadership and responsibility is forming responsibility and commitment at work. Indicator think critically and solve problems is developing critical thinking skills in solving problems and finding solutions. An indicator of communication is building effective communication skills. Indicators think critically and solve problems by developing critical thinking skills in solving problems and finding solutions. Indicator collaboration is the ability to work together in a team and basic skills in leading small groups. Indicator creativity and innovation is developing the ability to take initiative at work.

Transferable skills refer to professional competencies that can be widely applied, which are a bridge between academics and the working world (Eurodoc, 2018). By mastering transferable skills through the theme of work, each student brings transferable skills – portable – and transfers them to the working world. Transferable skills have the power to prepare students for work (Prianto & Maisaroh, 2017; Swaraj, 2023). The ability to take initiative and self-regulate has an impact on students' attitudes and behavior in facing life's challenges, including challenges in the working world (Kristu, 2019). Students' flexibility and

adaptability to the skills and demands of global competencies, referred to as cross-cultural management, can also be built through the cultivation of transferable skills (Singh, 2015).

Transferable skills are portable skills that must be have by prospective Indonesian workers The Merdeka Curriculum as social reconstruction education has a great opportunity to reconstruct the Indonesian job-seeking community with Pancasila characteristics. Students' positive perspective on transferable skills is the initial capital in carrying out the social reconstruction of students as potential job seekers. Students are encouraged to become agents of change (Bussert-Webb, 2011) in an effort to reconstruct society into a new social order (Sadker, 2022). In a social reconstruction curriculum, students are required to think critically (Bussert-Webb, 2011).

Implications and Limitations

This study is the result of a reflection on the implementation of P5 as a forum for developing transferable skills in a small sample and one city. This is initial research; further research needs to be carried out to examine the influence of transferable skills on vocational secondary school students' work readiness.

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References

- Agyemang, F. G. (2019). A From classroom to library: What are the transferable knowledge and skills teachers bring to library work. *Journal of Librarian-Ship and Information Science*, 52(3), 659–670.
- Badan Pusat Statistik. (2021). *Berita Resmi Statistik: Hasil Sensus Penduduk 2020*.
- Boghossian, P. (2006). Behaviorism, Constructivism, and Socratic Pedagogy. Educational Philosophy and Theory. *Behaviorism, Constructivism, and Socratic Pedagogy. Educational Philosophy and Theory*, 38(6), 713–722.
- Bussert-Webb, K. (2011). Becoming socially just disciplinary teachers through a community service learning project. *Journal of Language and Literacy Education*.
- Collins-Nelsen, R., Koziarz, F., Levinson, B., Allard, E., Verkoeyen, S., & Raha, S. (2022). Social context and transferable skill development in experiential learning. *Innovations in Education and Teaching International*, 59(4), 421–430.
- Connell, P. (2010). The power of curriculum in education. *International Comparative Education Research*.
- Eurodoc. (2018). *Identifying transferable skill and competences to enhance early-career researchers employability and competitiveness*.
<https://www.eurodoc.net/news/2018/press-release-eurodoc-report-on-transferable-skills-and-competences>
- Fosnot, C. T., & Perry, R. S. (2005). *Constructivism: A psychological theory of learning*. Teachers College Press.
- Gobby, B., & W. R. (2022). *Powers of Curriculum: Sociological Aspects of Education* (2nd ed.). Oxford University Press.
- Kemendikbudristek. (2021a). *Buku saku Kurikulum Merdeka*.
- Kemendikbudristek. (2021b). *Learning recovery: Time for action policy brief*.
- Kementerian Ketenagakerjaan Republik Indonesia. (2018). Standar Kompetensi Kerja Nasional Indonesia (SKKNI). In *Kementerian Ketenagakerjaan Republik Indonesia*.
- Kementerian Pendidikan dan Kebudayaan. (2016). *Revitalisasi pendidikan vokasi*.
- Kristu, S. T., College, J., & Somasundaram, M. T. (2019). *Effectiveness of life skill training (education) program: A study with reference to management students at Bangalore*.
- Labour Organization, I., & Development Bank, A. (2015). *Managing integration for better jobs and shared prosperity*.
- Laras Luhur Indonesia. (2021). *6 Soft skills yang harus dimiliki oleh pencari kerja*.

- Mateo, M., Jungkyu, D., & Lim, R. (2022). *The power of curriculum to transform education: How education systems incorporate 21st century skills to prepare students for today's challenges education division.*
- McKinsey and Company. (2019). *Otomasi dan masa depan pekerjaan di Indonesia: Pekerjaan yang hilang, muncul dan berubah.*
- Mohanasundaram, K. (2018). Recent trend of teaching methods in education. *India Journal of Applied and Advanced Research*, 1(3), 4–6.
- Mulyana, A. (2016). *Kebijakan pemerintah dalam menghadapi Masyarakat Ekonomi ASEAN (MEA): Sebuah Tinjauan HAM.*
- Noack, M. (2021). *Unpacking transversal skills and competencies.*
- Nurmillah, A. (2021). *Indonesia maju 2045: Kenyataan atau fatamorgana.*
- Prianto, A., & Maisaroh. (2017). The effect of academic performance and involvement in the internship program toward life skills and work readiness of university graduates in East Java Indonesia. *International Journal of Business and Management Invention ISSN.*
- Sadker, D. M. (2022). *Teachers, schools, and society: A brief introduction to education* (6th ed.). McGraw Hill.
- Sarbicki, A. (2020). *The power of a good curriculum.*
- Singh, H. (2015). Strategies for development of life skills and global competencies. *Article in International Journal of Scientific Research.*
- Swaraj, S., & J. R. (2023). *Effect of life skills training on employability preparedness using cluster analysis* (pp. 386–395).

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***Innovation Research on Civic Intelligence for Democratic Citizen to Address
Twenty-First Century Challenges***

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Abstract

Civic education is a means of democratic education where democratic values are integrated into learning so that citizens have the competence to become democratic citizens. This research aims to reintroduce the concept of civic intelligence to expand the concept of citizen competence, which Douglas Schuler, Winataputra and Somantri previously initiated. Through a qualitative design, this research presents an analysis of indicators of civic intelligence so that it can effectively position them in achieving the goals of Civic Education in developing democratic citizens. This research used a non-probability and purposive sampling method, carried out through focus discussion groups with Civic Education Lectures higher education in Indonesia. This research was conducted by questioning the conception of civic intelligence to obtain a conceptual and operation framework. The research results show that 8 aspects of competence influence civic intelligence, classified into private and public intelligence. Public intelligence includes civic knowledge, the realization of civic character, civic skills, and the possession of civic commitment. Public intelligence includes civic determination and displaying civic skills, which emanate from and re-crystallize into civic virtue.

Keywords: Civic Intelligence, Civic Competences, Civic Education, Democratic Citizens

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Introduction

The current condition of democracy in Indonesia refers to the 2021 Indonesian Democracy Index. According to The Economist Intelligence Unit (EIU, 2022), Indonesia is ranked 52nd out of 167 countries globally with a score of 6.71. This means that our country is still in the category of flawed democracy. As we know, the EIU democracy index is calculated based on five indicators: election administration and pluralism, government function, political participation, political culture and civil liberties. It was further explained that countries in this disabled group generally have a free and fair electoral system and respect basic civil liberties. However, they still have fundamental problems such as low press freedom, an anti-critical political culture, weak citizen political participation, and government performance, which could be more optimal. In line with that, based on data from the Central Statistics Agency for the last 3 years, namely 2018-2020, the Indonesian Democracy Index variable shows that political participation in decision-making and supervision shows the lowest figure compared to other variables, even from 2019 to 2020 it decreased from 56.72. % to 54.00%, this is much lower compared to the previous 2 years, namely 2018 at 54.28%. This shows that political participation in decision-making and supervision in Indonesia still needs to improve. This means that to become a full democracy, Indonesia must be able to further increase the participation of its citizens in public interests by growing citizen competence. Developing citizen competency is the responsibility of Citizenship Education, whether implemented at the school or university level.

The aim of learning Civic Education is to become smart and good citizens or intelligent citizens (Budimansyah, 2022). In achieving this, the competencies developed in Civic Education currently still refer to research conducted by the IEA on the implementation of Civic Education in 28 countries, generally concluding that the Civics component includes aspects of civic knowledge, civic engagement, and civic attitudes as well as concepts others (Torney-purta et al., 2001; Torney-Purta & Barber, 2005). The Civics material studied includes democracy, citizenship, national identity, international relations and social diversity/cohesion (Torney-purta et al., 2001). Then Patrick and Vontz (Arif, 2016) grouped the components of civic studies competency into four, namely (1) knowledge of citizenship and government in democracy (civic knowledge); (2) civic skills; (3) participatory civic skills of democratic citizens; and (4) the virtues and character of democratic citizens (civic disposition). The debate regarding citizen competence covers various aspects, with many experts advocating for EU institutionalized citizen competence (Chryssochoou, 2002), which is integrated into educational content (Poghosyan, 2019). The need for competence in Citizenship Education to teach citizens democratic values is also highly emphasized (Print & Lange, 2013). This perspective emphasizes the importance of citizen competence in fostering democratic and responsible citizens.

This research aims to reintroduce the concept of civic intelligence, which Douglas Schuler, (Schuler, 2001), popularized as a new perspective on citizen competence, to expand the scope of this competence so that it does not only focus on private competencies but also touches on areas of personal competence. Civic intelligence is a person's ability to understand, communicate and act to overcome common challenges efficiently and equally. Civic Intelligence refers to the human ability to use information and communication to engage in collective problem-solving. Civic intelligence is a prerequisite for building civic virtue with a substantial democratic system that contains a wider and healthier climate of freedom. In the realm of democracy with public civility, attitudes and behavior are developed that are capable of appreciating, respecting and caring about other people, obeying the social order with other

people and in public life, namely in society and as a nation-state (Budimansyah, 2022). Citizens must have intelligence for active and productive involvement in the public sector. Not only personal intelligence is private, but especially civic intelligence is public. Civic intelligence can be developed through creating (1) a climate of free speech, (2) gathering, associating and organizing, and (3) developing oneself. This is relevant for countries that adhere to a democratic system.

Various studies have tried to develop a framework for thinking and indicators of civic intelligence. Hidayah et al., (2020), introducing the concept of civic intelligence as a manifestation of collective intelligence that can serve the needs of researchers and practitioners who work at the intersection of society and technology. Civic Intelligence has four dimensions, namely (1) civic intelligence, (2) civic knowledge, (3) civic character and (4) civic skills. There are two concepts between civic intelligence and citizen intelligence, where civic intelligence is definitively explained by the phrase "citizen intelligence," and "civic intelligence" is defined as civic knowledge as part of civic intelligence. This opinion has the potential for conceptual ambiguity, so its validity must be confirmed again.

Meanwhile, Puspitasari et al., (2022) explains that Civic Intelligence includes intellectual, emotional, moral and spiritual intelligence within the framework of citizen competence. From the three studies above, confusion and instability in the conceptualization of civic intelligence will result in operational crises. In contrast, Skarzauskiene, 2018 uses a collective intelligence potential index to evaluate the potential of the Civic Tech platform, while Schuler, (2014) proposes a framework with five capacities: knowledge, attitudes, organizational capital, relational capital and social capital, and financial resources and materials. This framework is discussed further in the context of Computer-Supported Cooperative Work (CSCW) (Schuler, 2012)(Schuler, 2012). Therefore, this research seeks to build a systemic conceptual framework that can be consistently accepted and used universally as a conceptual and operational framework.

Civic knowledge is a competency related to knowledge about the rights and responsibilities of citizens, human rights, democratic principles and norms in society. Civic knowledge includes material such as 1) Politics and law: knowledge about the government system, government institutions, and applicable laws. 2) National identity: knowledge of the nation's history and culture. 3) Rights and responsibilities of citizens: knowledge of the rights and obligations of citizens in national and state life. 3) Human rights: knowledge of basic human rights guaranteed by the constitution. 4) Rule of law: knowledge of applicable law and an independent and objective judiciary. This civic knowledge is needed to form intelligent, democratic and noble citizens. Civic Education has three main functions: developing citizen intelligence, fostering citizen responsibility, and encouraging citizen participation. Thus, civic knowledge is important in forming good citizens who play an active role in national and state life.

Result and Discussion

Based on previous opinions Somantri & Winataputra, (2017), the Pancasila Education course develops a psycho-pedagogical/andragogical mission to develop citizen competence in the philosophical/ideological dimensions of Pancasila; on the other hand, the Civic Education course carries a psychological-pedagogical mission to develop civic intelligence as a provision to harmonize obligations and rights in Indonesian democratic life, which originates from the fourth principle of Pancasila. Thus, the two courses are substantive and

pedagogical/andragogical and must complement and strengthen each other (Winataputra, 2001).

Civic Education is designed, implemented and evaluated in the context of developing civic intelligence, which is psychosocially reflected in the mastery of civic knowledge, the realization of civic attitudes/character (civic disposition), civic skills, possessing civic commitment, civic confidence, and civic competence emanate from and crystallize into civic virtues/civility. Overall, this ability is a provision for every citizen to carry out civic participation (civic responsibility) consciously. The ontological, epistemological and axiological context of citizenship education as a scientific discipline and educational program must be understood fundamentally and expanded professionally. Through this theoretical reflection, we will then explain the various competencies needed so that the democratic values of citizens can be realized.

Civic Dispositions are personality characteristics needed by citizens to support effective political participation, the functioning of a healthy political system, the development of dignity and self-respect, and the public interest (Mulyono, 2017). Civic Disposition includes several aspects, such as 1) Politeness, respect, and human interaction. 2) Individual responsibility: maintaining public interests and participating in social life. 3) Self-discipline: controlling oneself and behaving by social norms. 4) Civic-mindedness: thinking and behaving in a way that maintains the public interest. 5) Open-mindedness: thinking and behaving in a way that maintains the public interest and participates in social life. 6) Compromise. 7) Compassion. 8) Generosity. 9) Loyalty to the nation and its principles. Democratic values can be implemented in civic character, such as: 1) Expressing one's opinion, thinking and behaving in a way that maintains the public interest. 2) Presenting important information to the general public: behaving in a way that maintains the public interest and participates in social life. 3) Critically assess other people's opinions: think and behave in a way that maintains the public interest. 4) Identify, describe, explain, analyze, evaluate, think and behave while maintaining the public interest.

Civic Skills are a set of abilities citizens need to participate actively in national and state life (Murdiono, 2018). These skills include intellectual skills and participation skills. Intellectual skills include the ability to think, communicate and organize, while participation skills include the ability to participate in public policy, make decisions and manage conflict. Indicators of intellectual skills include several aspects, such as 1) Critical and analytical thinking abilities; 2) Effective communication skills; 3) Ability to organize and manage conflict; 4) Ability to solve social problems; 5) Ability to make decisions based on correct information. Meanwhile, Participation Skills indicators include 1) the Ability to participate in public policy; 2) the ability to make political decisions; 3) the ability to influence the running of government; 4) the ability to form coalitions and manage conflict; 5) the ability to manage finances and resources.

Civic confidence is an individual's strong awareness and commitment to their country and society. This includes awareness of the rights and obligations as citizens and the values and principles on which the state is based. Indicators of citizenship steadfastness: 1) Awareness of Rights and Obligations: Individuals are aware of their rights and obligations as citizens and understand and respect other rights and obligations. 2) Commitment to the State and Society: Individuals strongly commit to their state and society and actively participate in decision-making and community development. 3) Respect for Values and Principles: Individuals highly respect the values and principles on which the country is based and strive to develop

and maintain these values and principles. 4) Teamwork Skills: Individuals have teamwork skills that enable them to work together with the rest of society in developing society.

Civic competence is a person's ability to play an active and responsible role in building, maintaining and strengthening national identity and national unity (Torney-Purta & Barber, 2005). Indicators of civic skills 1) Understanding Pancasila Ideology: The ability to understand and appreciate the basic values of Pancasila as a state ideology. 2) Critical Thinking Ability: Critical thinking ability allows someone to understand and solve societal problems. 3) Scientific Thinking Skills: Scientific thinking skills enable someone to understand and solve societal problems. 4) Collaboration Skills: Collaboration skills enable working with others in a developing society. 5) Social Skills: Social abilities enable a person to interact with others in society effectively. 6) Strategic Thinking Skills: Strategic thinking skills enable someone to understand and solve societal problems. 7) Creative Thinking Skills: Creative thinking skills enable someone to understand and solve societal problems. 8) Innovative Thinking Skills: Innovative thinking skills enable someone to understand and solve societal problems.

Civic Commitment is an individual's commitment to actively participate in the life of the nation and state and defend democratic values and the public interest (Cohen-Vogel, 2019; Dalton, 1996; Putman, 2000). Citizenship commitment includes several aspects, such as: 1) Active involvement: actively participating in community activities and civil society organizations. 2) Openness: thinking and behaving in a way that maintains public interests and participates in social life; 3) Order: behaving in a way that maintains the public interest and participates in social life. 4) Information openness: sharing important information with the general public. 5) Involvement in decisions: participating in decision-making that has an impact on people's lives.

Civic virtues refer to the moral and ethical qualities required in the life of a democratic society. These qualities support shared prosperity and the safety of society as a whole (Syarif, 2019). Some civic virtues include integrity, honesty, responsibility, openness, active participation in democratic processes, and respect for the law and government institutions. Indicators of civic virtues can vary depending on a particular society's cultural, social and political context. However, some general indicators include 1) Democratic Participation: Level of participation in general elections, local elections, and other political processes. 2) Understanding of the Political System: Level of understanding of the structure and function of the political system, including the constitution and democratic principles. 3) Social Involvement: Participation in social and volunteer activities that support community interests. 4) Openness to Other Perspectives: The ability to understand and respect the views and experiences of others, as well as the ability to communicate in a way that builds dialogue and cooperation. 5) Public Ethics: Demonstrate integrity, honesty, and responsibility in societal actions and decisions. 6) Compliance with Law: Comply with the laws and regulations that apply in society. 7) Critical of Authority: The ability to question authority and criticize policies and actions that do not follow the principles of democracy and justice.

Civic responsibility is an individual's awareness and obligation to play an active role in society's social, political and economic life, as well as contributing to the formation of a just, democratic and sustainable society. Indicators of Civic Responsibility are as follows: 1) Fulfillment of Legal Obligations: Individuals comply with the laws and regulations that apply in society; 2) Political Participation: Involving oneself in the political process, such as voting in general elections, taking part in debates, or participating in political campaigns. 3) Social

Involvement: Taking part in social activities or organizations to improve community welfare. 4) Community Empowerment: Contribute to community development by participating in community development programs, volunteer activities, or providing advice and support. 5) Environmental Awareness: Demonstrate environmental concern and participate in environmental conservation efforts. 6) Critical of Social Justice: Recognizes and challenges societal inequalities and injustices and seeks to address these problems. 7) Educational Obligation: Understand the importance of education and support efforts to improve access and quality of education for all members of society.

Several concrete connections between civic intelligence and democratic values: 1) Civic knowledge about the political system, the rights and obligations of citizens, as well as democratic mechanisms, is the main foundation in understanding democratic values such as freedom of opinion, equal rights and justice. Individuals who are knowledgeable about good citizenship are more likely to be able to appreciate and practice these values in their interactions with society and government. 2) Citizenship Attitudes: good citizenship attitudes include active involvement in political and social life and reflect a deep appreciation for the basic values of democracy. By practicing these attitudes, individuals contribute positively to developing and maintaining a democratic and inclusive society. 3) Citizenship skills, such as the ability to argue rationally, participate in political processes, and cooperate in society, are essential in supporting democratic values. For example, the ability to dialogue effectively and manage conflict constructively is part of the citizenship skills that support democratic processes. 4) Civic Commitment: Commitment to actively participate in political and social processes manifests democratic values such as public participation and joint decision-making. Individuals with a strong commitment to citizenship tend to act according to democratic principles in their efforts to create positive change in society. 5) Citizenship Firmness includes mental attitudes such as the willingness to listen to other people's views, respect differences of opinion, and have a sense of responsibility towards society and the state. Democratic values such as pluralism, tolerance and equality are internalized through positive civic dispositions. 6) Civic Civility includes respect for individual freedom, equality before the law, and fair treatment for all citizens. These values are the foundation of a democratic system that respects human rights and guarantees protection against discrimination. 7) Civic Participation / Responsibility: A strong civic culture reflects how democratic values are reflected in social norms, institutions and daily practices in society. Societies that adhere to a culture of good citizenship tend to support active participation, justice and respect for human rights.

Conclusion

The conceptual framework of civic intelligence extends the concept of civic competence. Civic Intelligence is about knowledge and skills but also attitudes, and values that encourage individuals to play an active role in community life. Through developing civic intelligence, society can build a strong foundation for sustainable and democratic citizenship, which contains the indicators and competencies needed so that Citizenship Education can carry out its function as democratic education for citizens. It is hoped that this research can provide a new perspective on developing democratic values so that, for further research, a standard instrument can be developed from this conceptual framework, which can ultimately be used operationally in measuring civic intelligence, especially in developing democratic citizens.

References

- Arif, D. B. (2016). Pengembangan komponen kompetensi kewarganegaraan dalam buku teks Pendidikan Kewarganegaraan SMP/MTs. *Jurnal Civics: Media Kajian Kewarganegaraan*, 13(1). <https://doi.org/10.21831/civics.v13i1.11076>
- Budimansyah, D. (2022). *Studi Kewarganegaraan* (D. Budimansyah (ed.)). C.V. Jendela Hasanah.
- Chrysochoou, D. N. (2002). Civic competence and the challenge to EU polity-building. *Journal of European Public Policy*, 9(5), 756–773. <https://doi.org/10.1080/13501760210162348>
- Cohen-Vogel, L. (2019). Civic Education and the Paradox of Political Participation. *Peabody Journal of Education*, 94(1), 1–3. <https://doi.org/10.1080/0161956X.2019.1553583>
- Dalton, R. J. (1996). *No TiCitizen Politics : Public Opinion And Political Parties In Advonced Industrial Democracies*. Universal Law Publishing.
- EIU. (2022). Democracy Index 2021: The China challenge. *The Economist Intelligence Unit*, 83.
- Hidayah, Y., Sapriy, Darmawan, C., Malihah, E., & Karliani, E. (2020). Promoting Civic Intelligence in Applied Science to Promote Interaction between Science: An Overview in the Perspective of Citizenship Education. *Universal Journal of Educational Research*, 8(8), 3782–3791. <https://doi.org/10.13189/ujer.2020.080859>
- Mulyono, B. (2017). Reorientasi civic disposition dalam kurikulum Pendidikan Kewarganegaraan sebagai upaya membentuk warga negara yang ideal. *Jurnal Civics: Media Kajian Kewarganegaraan*, 14(2), 218–225. <https://doi.org/10.21831/civics.v14i2.17007>
- Murdiono, M. (2018). Peningkatan Keterampilan Kewarganegaraan (Civic Skills) Melalui Penerapan Pembelajaran Kewarganegaraan Berbasis Portofolio. *Humanika*, 7(1), 1–20. <https://doi.org/10.21831/hum.v7i1.21016>
- Poghosyan, G. (2019). Civic Competence as a Target Component of Education Content. *Budapest International Research and Critics in Linguistics and Education (BirLE) Journal*, 2(4), 64–67. <https://doi.org/10.33258/birle.v2i4.492>
- Print, M., & Lange, D. (2013). Civic Education and Competences for Engaging Citizens in Democracies. In *Sense Publishers*. Sense Publishers.
- Puspitasari, R., Budimansyah, D., Sapriya, S., & Rahmat, R. (2022). The Influence of Emotional Intelligence, Moral Intelligence and Intellectual Intelligence on Characters Caring for the Environmental School Students in the Perspective of Civic Education. *Proceedings of the Annual Civic Education Conference (ACEC 2021)*, 636(Acec 2021), 343–348. <https://doi.org/10.2991/assehr.k.220108.062>

- Putman, R. D. (2000). Bowling Alone. In *Nucl. Phys.* (Vol. 13, Issue 1). Simon & Schuster.
- Schuler, D. (2001). Cultivating society's civic intelligence: Patterns for a new "world brain." *Information Communication and Society*, 4(2), 157–181.
<https://doi.org/10.1080/13691180110044434>
- Schuler, D. (2012). IFIP AICT 386 - Civic Intelligence and CSCW. In *IFIP AICT* (Vol. 386).
- Schuler, D. (2014). Pieces of Civic Intelligence: Towards a capacities framework. *E-Learning and Digital Media*, 11(5), 518–529.
<https://doi.org/10.2304/elea.2014.11.5.518>
- Somantri, M. N., & Winataputra, U. S. (2017). *Disiplin Pendidikan Kewarganegaraan : Kultur Akademis dan Pedagogis* (S. Sapriya & R. Machfiroh (eds.)). Laboratorium PKn.
- Syarifa, S. (2019). Konsep Civic Virtue dan Pendidikan Kewarganegaraan di Indonesia. *Jour*, May, 1–4.
https://www.researchgate.net/publication/333395809_Konsep_Civic_Virtue_dan_Pendidikan_Kewarganegaraan_di_Indonesia
- Torney-Purta, J., & Barber, C. (2005). Democratic School Engagement and Civic Participation among European Adolescents: Analysis of Data from the IEA Civic Education Study. *Jsse*, 4(3), 13–29.
- Torney-purta, J., Lehmann, R., Oswald, H., & Schuiz, W. (2001). *Citizenship and Education in 28 Countries* (Issue 10).
- Winataputra, U. S. (2001). *Jatidiri Pendidikan Kewarganegaraan Sebagai Wahana Sistemik Pendidikan Demokrasi (Suatu Kajian Konseptual Dalam Konteks Pendidikan IPS)*. 1–126. <http://repository.ut.ac.id/2872/1/40115.pdf>

Student Readiness Patterns in Taking on Digital Literacy Challenges in the Era of Industrial Revolution 4.0: Comparative Study

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Abstract

In today's rapidly evolving digital literacy skill system, it is imperative that Generation Z students keep pace with their ability to navigate in today's digital world. This research explores data related to digital literacy skills to understand the characteristics of SMA, SMK and MA students in utilizing the digital environment technology that passes by unstoppable progress. Through data analysis, this research aims to provide an overview of data related to how generation Z can navigate the digital world, consume information, think critically, security and utilize technology for the learning process. This research used mixed method with comparative study. The resulted of this study focus on the characteristics of students with various types of school backgrounds that made the ability to think critically and the ability to used technology as one of the basics in digital literacy. The strengths and weaknesses in digital literacy skills can be measured through 7 indicators and 28 items divided into indicators such as information and data digital literacy skills, communication, collaboration, personal security, device and technology security. The result showed that all of the above indicators have met the valid criteria and had a very high reliability estimate value of 0.730, so that the results of this study can provided a data distribution order to intervene to be right on target. Of the three types of schools, the most visible indicator of comparison is critical thinking and the ability to use technology, where Madrasah Aliyah (MA) was at a moderate level of ability.

Keywords: Digital, Literacy, Generation Z

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Introduction

Digital natives today can be said to be generation Z people, where in Indonesia in the post-covid digital era, they are accustomed to technology from an early age.(Prensky, 2001). Photographed from the ability of basic skills such as how they use *smartphones*, operate computers and navigate the internet world as skills that tend to be self-taught. This tragedy is exactly the same as digital natives around the world, where they also grew up in the current digitalization era (Abrams et al., 2019; Antee, 2021; Arslantas & Gul, 2022; Cradduck et al., 2022; Dewi et al., 2021).

Each generation has its own challenges and uniqueness, so this characterization can help educators, parents and other stakeholders to be more effective and targeted in building communication and educating a sense of responsibility for what has become a choice and decision in the context of digital literacy. Some of the characteristics possessed by digital natives are (1) the ability to operate smartphones, tablets and computers, as well as various online applications and platforms, ranging from social media to software that are integrated with all their needs, (2) multitasking, where they are able to interact with technology simultaneously, such as when they listen to music while browsing the internet and sending messages at the same time. (3) this generation is more comfortable communicating through social media, instant messaging, telegram, twitter, instagram and other communication platforms than face-to-face, (4) the information obtained by them is more audio-visual oriented, such as videos on youtube, Instagram, tiktok and other audio-visual elements, (5) fast and efficient access to various information by using search engines or navigation, reading various journal articles on various official websites or watching videos in obtaining the information they need without being limited by space and time, (6) low ability to evaluate the accuracy of information data found online, thus requiring more holistic digital literacy education (Abrams et al., 2019; Evans & Midford, 2022; Rini et al., 2022; Savic, 2022; Turner et al., 2020).

In addition to these basic skills, Generation Z utilizes digital platforms to express themselves, where they are active in sharing content or posts on social media, so they are more comfortable with the concept of graphic design, video editing or digital art. Many directly post the content on vlogs and blogs describing their own hobbies, knowledge or opinions and more enthusiastically they target audiences and promote their content without the need for an academic learning process (Alakrash et al., 2022; Andersen et al., 2022; Chan, 2021; Nichols & LeBlanc, 2021). In today's education system, technology has become an integral part of the learning process, where skills are fundamentally required to be able to interact in modern learning, so this has an impact on various aspects of life from education to the world of work and society. Digital skills such as the ability to search, understand, evaluate and use Microsoft office, excel, power point, programming, data analysis and graphic design require strong digital literacy skills (Anthonysamy, 2023; Arafah & Hasyim, 2023; Maureen et al., 2020; Pala & Başbüyük, 2023; Rice & Cun, 2021; Sukarno & Widdah, 2020; Syefrinando et al., 2022). Indonesia with a population of 278.69 million in mid-2023 experienced a growth of 1.05% (BPS, 2023) with 38 provinces spread from Sumatra to Papua. Based on this data, the number of people who fall into the 13-70 years age category, the majority of 51.5% have a digital literacy index score below the national average. This score is measured through four digital literacy index indicators according to Unesco, 2018, namely Digital Skills, Digital Ethics, Digital Safety, and Digital Culture.

The urgency of this research is that the distribution of data on generation Z which is said to be digital literacy is not optimal, resulting in an imbalance in the intervention crisis, so that it will hamper government programs in promoting digital literacy awareness in generation Z today.

Research Usefulness

1. Provide information data related to digital literacy skills of high school, vocational and man students in Bengkulu City.
2. Provides information on the importance of digital education and ethics for students interacting in digital spaces.
3. Provide data information to assist school policies in formulating more effective and equitable models, approaches and strategies as well as technology implementation.
4. The data helps the independent curriculum program to make students think critically, creatively and learn independently.

Literature Review

The term *digital literacy skill* is a person's ability to use computer devices to access various information in the digital space (Paul Gilster, 1997). Meanwhile, according to Cassie Hague and Sarah Payton (2010), there are 8 components of digital literacy, namely: (1) *Functional skills and beyond*. Is a component of digital literacy related to the expertise of using information technology; (2) *Creativity*. It is a component of digital literacy related to creative thinking utilizing ICT in building knowledge; (3) *Collaboration*. Is a component of digital literacy related to building knowledge through the process of discussion and providing mutual input in the digital space; (4) *Communication*. It is a component of digital literacy related to the ability to listen, understand, and convey ideas; (5) The ability to find and select information; (6) Critical thinking and evaluation; (7) *Cultural and social understanding*; and (8) *E-safety*.

However, compared to other experts, it appears (Belshaw, 2012) stated that there are eight essential elements in developing digital literacy skills, namely; (1) Cultural is an individual's understanding of various user contexts in the digital world, (2) Cognitive is an individual's thinking power in assessing content, (3) Constructive is an individual's ability to build, repair, or improve something expert and actual, (4) Communicative is an individual's understanding of networking and communication in the digital world.

(5) Confident is the competent use of *digital literacy*, (6) Creative is an action carried out in new things and ways, (7) Critical is an individual's activity in conducting research and checking back on content that has been read, (8) *Civic* is a wise and ethical thing that individuals must have in the digital world.

According to Belshaw, digital literacy is the ability of individuals to master the knowledge and skills in using digital media, communication tools and networks, so that individuals are able to find, master, use, create and utilize information wisely, appropriately, healthily, intelligently and obey the law.

Research Methodology Research Design

This research used a mix method study comparative. The research was conducted to understand the phenomena faced by the research subject holistically by describing naturally occurring without any subject engineering (*Qualitative Inquiry And Research Design Choosing Among Five Approaches* by John W. Creswell [z-Lib.Org], n.d.).

Participants

This study involved 219 students based on 3 schools with different characteristics, namely State Senior High School (SMA), Madrasah Aliyah School (MAN) and Vocational High School (SMK). In this case the research subjects are students who are exposed to the internet. This research instrument uses digital literacy skill indicators based on the exposure of Unesco, 2018. The general description of the characteristics of high school, MAN and SMK students in Indonesia is very diverse, namely:

Table 1: The general of the characteristic factors of SMA, MAN and SMK students in Indonesia

Description	SMA	MAN	SMK
Age	15-18 years	15-18 years	15-18 years
Study period	3 years	3 years	3 years
Subjects	General + optional	General + religion	General + optional
Education focus	Academic	Academic + religion	Vocational/practical
Destination	Higher Education	Higher education/religious	Employment field/college
Extracurricular	Many types of options (sports, arts, other academic sciences)	Diverse + religious	Related to majors/vocations
Environment	General	General with Islamic/religious nuances	Related to majors. vocational
Lesson Methods	Theoretical	Theoretical + religious learning	Theoretical + practical
Availability	Many options	Located in an area with a large Muslim population	Limited
Reception	General/academic test	General/academic + religious test	General/academic + vocational test

Source: Kemdikbudristek, 2023.

Research Process

Digital literacy skills were not only measured by the ability to use digital devices or access the internet. It is important to know the extent to which learners have broad competencies related to aspects of the ability to search, evaluate, use and create digital content ethically and effectively. Unesco in 2018 has detailed the components of digital literacy skills and researchers identified and classified them into sub-components based on the figure, as follows:

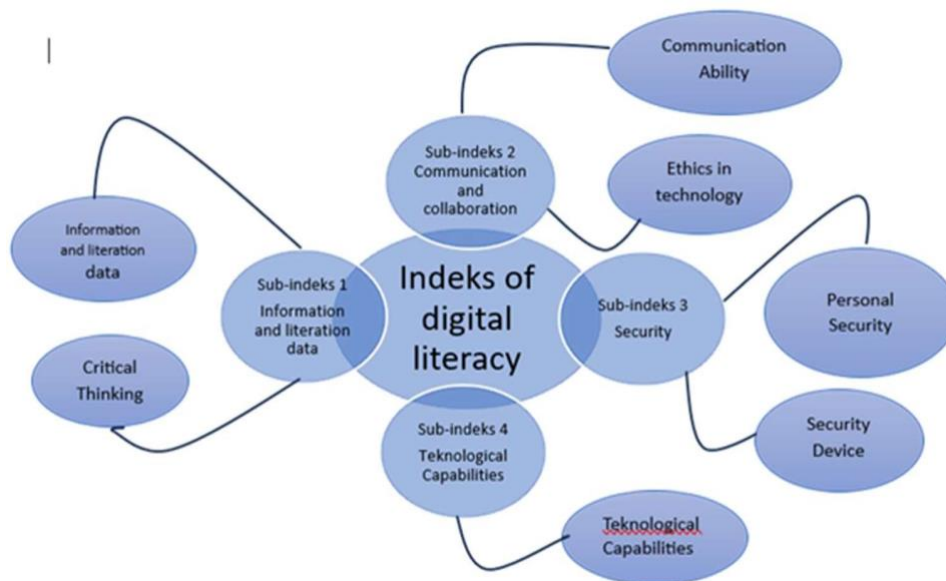


Figure 1: Conceptual framework (Unesco, 2018)

From the mapping picture, each sub-component of digital literacy skills can be described, after conducting content analysis based on the above indicators to explore the meaning of the pattern and complexity of the phenomenon under study, data analysis was then carried out using the SPSS 24 test by meeting the validity criteria of 0.730 with a high estimated value based on Cronbach's alpha coefficient. The researcher tabulated simple calculations and analyzed the percentage of respondents who gave answers, then the percentage results could describe each comparative indicator so that patterns of category identification could be found where the sample needed a lot of further attention.

Results and Discussion

Based on the data received that from 219 samples consisting of 88 males and 131 females with an age range of 15-18 years from various types of schools namely, Senior High School (SMA), Vocational High School (SMK) and Madrasah Aliyah School (MAN), it shows that;

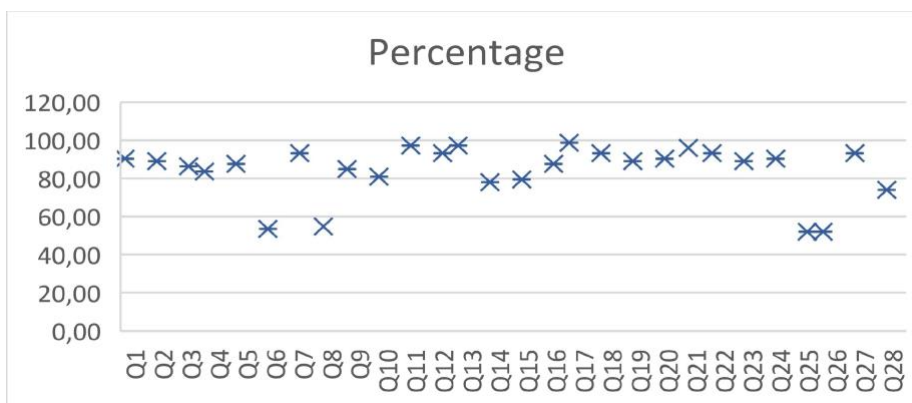


Figure 2: The data of students in Senior High School (SMA)

Senior High School (SMA) has a digital literacy competency index consisting of the **first indicator**, namely, information and data literacy which showed that students' statements (Q1) related to the ability to search and access information data and content in digital media are

in accordance with the needs with a total score of 66, achieving an index of 90.41% in the high category, students' statements (Q2) related to the ability to filter data, information and content as needed in digital media with a total score of 65, achieved an index of 89.04% in the high category, student statements (Q3) related to the ability to direct or organize in the search for data, content and information that suits student needs with a total score of 63, achieved an index of 86.30% in the high category, student statements (Q4) related to the ability to store information, data and content in digital media with a total score of 61, achieved an index of 83.56% in the high category.

The second indicator, namely, critical thinking, showed that student statements (Q5) related to the habit of finding out about the information found on the website is true or false with a total score of 64, achieving a digital literacy index of 87.67% in the high category, student statements (Q6) related to the habit of finding out about who the author of the information is as well as the author's track record with a total score of 39, achieving a digital literacy index of 53.42% in the medium category. student statements (Q7) related to the habit of comparing various sources of information to confirm the news is true or false, with a total of 68, achieving a digital literacy index of 93.15% in the high category. Student statement (Q8) related to students' curiosity about their interlocutors online, thus checking their identity, with a total score of 40, achieving a digital literacy index of 54.79% in the medium category.

The third indicator, namely, the ability to communicate, showed that student statements (Q9) related to the ability to interact with various digital technology communication devices, with a total score of 62, achieved a digital literacy index of 84.93% in the high category, student statements (Q10) related to sharing data and information with others through adapted technology, with a total score of 59, achieved a digital literacy index of 80.82% in the high category. student statement (Q11) related to considering and adjusting how to communicate with others, with a total score of 71, achieving a digital literacy index of 97.26% in the high category. student statement (Q12) related to considering and being aware of cultural, religious and age diversity when sharing information, with a total score of 68, achieving a digital literacy index of 93.15% in the high category.

The fourth indicator, namely personal safety, showed that student statements (Q13) related to writing opinions using polite language, with a total score of 71, achieved a digital literacy index of 97.26% in the high category, student statements (Q14) readiness to accept the consequences of what is written on the internet so that it can be accessed by many people, with a total score of 57, achieved a digital literacy index of 78,08% in the high category, student statements (Q15) related to always listing or asking permission from the creator of the work, whether writing, design, photos or images, with a total of 58, achieving a digital literacy index of 79.45% in the high category, student statements (Q16) related to not disseminating information containing hate speech, slander or hoaxes, with a total score of 64, achieving a digital literacy index of 87.67% in the high category.

The fifth indicator, namely personal safety, showed that student statements (Q17) related to students' ability to regulate who can see their posts on personal social media accounts, with a total score of 72, achieved a digital literacy index of 98.63%, in the high category, student statements (Q18) how to report social network abuse, if there is post content that harms me, with a total score of 68, achieved a digital literacy index of 93.15% in the high category, student statements (Q19) related to disabling the GPS option or other social media applications, with a total score of 64, achieved a digital literacy index of 87.67% in the high

category, student statements (Q20) related to not uploading personal data on social media, with a total score of 56, achieved a digital literacy index of 76.71% in the high category.

The sixth indicator, namely device security, showed that student statements (Q21) related to using software to find and remove viruses on mobile phones or computers, with a total score of 70, achieved a digital literacy index of 95.89% in the high category, student statements (Q22) the ability to distinguish emails containing spam, viruses or malware, with a total score of 68, achieved a digital literacy index of 93,15% in the high category, student statements (Q23) related to the habit of creating secure passwords with a combination of numbers, letters and punctuation marks, with a total score of 65, achieving a digital literacy index of 89.04% in the high category, student statements (Q24) related to backing up data in several places, with a total score of 66, achieving a digital literacy index of 90.41% in the high category.

The seventh indicator, namely the ability to use technology, showed that student statements (Q25) related to the ability to connect devices to wifi networks, with a total score of 38, achieved a digital literacy index of 52.05% in the medium category, student statements (Q26) related to the ability to download files or applications, with a total score of 38, achieved a digital literacy index of 52.05% in the medium category, student statements (Q27) related to the ability to upload files to the internet, with a total score of 68, achieved a digital literacy index of 93.15% in the high category, student statements (Q28) related to installing applications on the device with a total score of 54, achieved a digital literacy index of 73.97% in the medium category.

Based on this data, the average value of digital literacy skills of high school students reaches 83.85, it can be concluded that in terms of information and data literacy statements, communication skills, technology ethics, individual security and device security fall into the excellent category, this is due to a curriculum that is oriented towards general learning related to various types of information and communication technology that supports their learning process followed by facilities and resources that are easily accessible to students and they are more directed to be guided to continue to higher education where digital skills are currently needed. (Polizzi, 2020; Promoting Digital Literacy Skills for Students through Improved School Curriculum, n.d).. Currently, the curriculum has begun to be adapted by some teachers to be used as a guide in developing learning tools in improving digital literacy skills and not least abroad have successfully designed and implemented their curriculum into subjects, but in reality in the category of critical thinking has not been optimally owned by high school students, this is due to the low habit of students to find out about the author of information and the track record of the author and their low curiosity about their interlocutors online. This can be caused by the limited formal education in providing sufficient lessons related to how to find out and evaluate the credibility of the information they read and the students' not optimal ability.

to use technological devices caused by the lack of sufficient training or guidance related to the use of the latest technological devices and applications, so that their low experience leads to hampering the ongoing learning process.

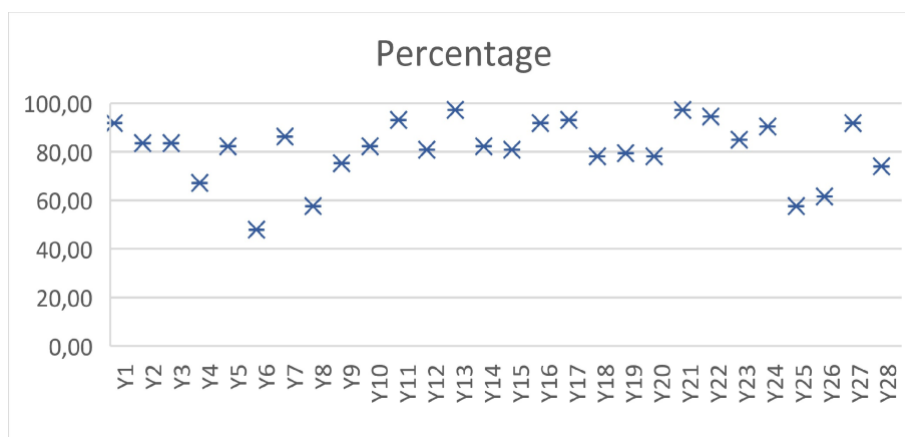


Figure 3: The data of students in Vocational School (SMK)

Vocational School (SMK) has a digital literacy competency index consisting of the **first indicator**, namely, information and data literacy which showed that student statements (R1) related to the ability to search and access information data and content in digital media are in accordance with the needs with a total score of 67, achieving an index of 91.78% in the high category, student statements (R2) related to the ability to filter data, information and content as needed in digital media with a total score of 61, reaching an index of 83.56% in the high category, student statements (R3) related to the ability to direct or organize in the search for data, content and information according to student needs with a total score of 61, reaching an index of 83.56% in the high category, student statements (R4) related to the ability to store information, data and content in digital media with a total score of 49, reaching an index of 67.12% in the medium category.

The second indicator, namely, critical thinking, showed that student statements (R5) related to the habit of finding out about the information found on the website are true or false with a total score of 60, achieving a digital literacy index of 82.19% in the high category, student statements (R6) related to the habit of finding out about who the author of the information fiber track record of the author with a total score of 35, achieving a digital literacy index of 47.94% in the low category. Student statement (R7) related to the habit of comparing various sources of information to confirm the news is true or false, with a total score of 63, achieving a digital literacy index of 86.30% in the high category, student statement (R8) related to students' curiosity about their interlocutors online, thus checking their identity, with a total score of 42, achieving a digital literacy index of 57.73% in the medium category.

The third indicator, namely, the ability to communicate, showed that student statements (R9) related to the ability to interact with various digital technology communication devices, with a total score of 55, achieved a digital literacy index of 75.34% in the high category, student statements (R10) related to sharing data and information with others through adapted technology, with a total score of 60, achieved a digital literacy index of 82.19% in the high category. student statement (R11) related to considering and adjusting how to communicate with others, with a total score of 68, achieving a digital literacy index of 93.15% in the high category. student statement (R12) related to considering and being aware of cultural, religious and age diversity when sharing information, with a total score of 59, achieving a digital literacy index of 80.82% in the high category.

The fourth indicator, namely personal safety, showed that student statements (R13) related to writing opinions using polite language, with a total score of 71, achieving a digital literacy

index of 97.26% in the high category, student statements (R14) readiness to accept the consequences of what is written on the internet so that it can be accessed by many people, with a total score of 60, achieving a digital literacy index of 82.19% in the high category, student statements (R15) related to always listing or asking permission from the creator of the work, whether writing, design, photos or images, with a total score of 59, achieving a digital literacy index of 80.82% in the high category. student statement (R16) related to not spreading information that contains hate speech, slander or hoaxes, with a total score of 67, achieving a digital literacy index of 91.78% in the high category.

The fifth indicator, namely personal safety, showed that student statements (R17) related to students' ability to regulate who can see their posts on personal social media accounts, with a total score of 68, achieved a digital literacy index of 93.15% in the high category, student statements (R18) how to report social network abuse, if there is post content that harms me, with a total score of 57, achieved a digital literacy index of 78.08% in the high category, student statements (R19) related to disabling the GPS option or other social media applications, with a total score of 58, achieved a digital literacy index of 79.45% in the high category, student statements (R20) related to not uploading personal data on social media, with a total score of 57, achieved a digital literacy index of 78.08% in the high category.

The sixth indicator, namely device security, showed that student statements (R21) related to using software to find and remove viruses on mobile phones or computers, with a total score of 71, achieved a digital literacy index of 97.26% in the high category, student statements (R22) the ability to distinguish emails containing spam, viruses or malware, with a total score of 69, achieved a digital literacy index of 94.52% in the high category, student statements (R23) related to the habit of creating secure passwords with a combination of numbers, letters and punctuation marks, with a total score of 62, achieving a digital literacy index of 84.93% in the high category, student statements (R24) related to backing up data in several places, with a total score of 66, achieving a digital literacy index of 90.41% in the high category.

The seventh indicator, namely the ability to use technology, showed that student statements (R25) related to the ability to connect devices to wifi networks, with a total score of 42, achieved a digital literacy index of 57.53% in the medium category, student statements (R26) related to the ability to download files or applications, with a total score of 45, achieved a digital literacy index of 61.64% in the medium category, student statements (R27) related to the ability to upload files to the internet, with a total score of 67, achieved a digital literacy index of 91.78% in the high category, student statements (R28) related to installing applications on devices with a total score of 54, achieved a digital literacy index of 73.97% in the medium category.

Based on this data, the average value of digital literacy skills of SMK students reached 80.86, including 23 statements in the high digital literacy category and 5 statements in the medium category, it can be concluded that in terms of information and data literacy statements, critical thinking, communication skills, technology ethics, individual security, device security and the ability to use technology fall into the excellent category, this is because the SMK curriculum is designed to develop skills and focus on hands-on practical experience through job training, internships or projects and work teams. In addition, Kemenkominfo provides training to SMK students and collaborates with digital pandu. Digital pandu is tasked with providing assistance in an effort to improve digital literacy in the education, tourism, MSMEs and farmers and fishermen sectors, learning experiences in the form of training, internships and

project-based learning are important in improving vocational student skills (Andresen et al., n.d.; Brott, 2006; Wiek et al., 2014).

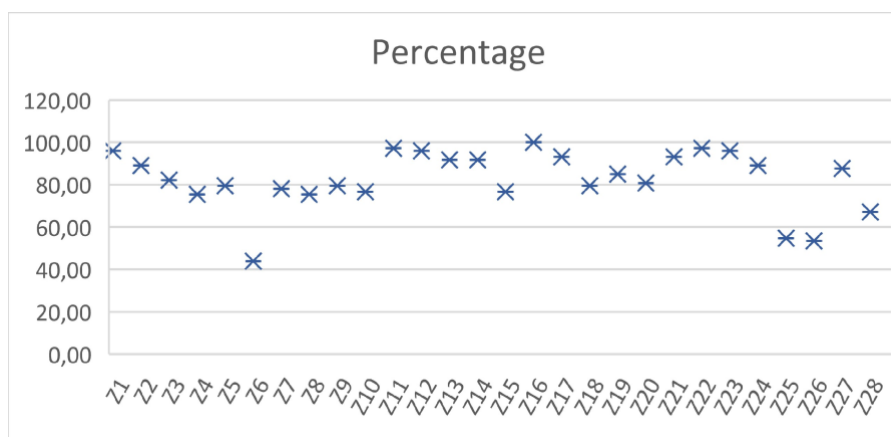


Figure 4: The data of students in Madrasah Aliyah School (MAN)

Madrasah Aliyah School (MAN) has a digital literacy competency index consisting of the **first indicator**, namely, information and data literacy which showed that student statements (S1) related to the ability to search and access information data and content in digital media are in accordance with the needs with a total score of 70, reaching an index of 95.89% in the high category, student statements (S2) related to the ability to filter data, information and content as needed in digital media with a total score of 65, reaching an index of 89.04% in the high category, student statements (S3) related to the ability to direct or organize in the search for data, content and information according to student needs with a total score of 60, reaching an index of 82.19% in the high category, student statements (S4) related to the ability to store information, data and content in digital media with a total score of 55, reaching an index of 75.34% in the medium category.

The second indicator, critical thinking, showed that student statements (S5) related to the habit of finding out about the information found on the website is true or false with a total score of 58, achieving a digital literacy index of 79.45% in the high category, student statements (S6) related to the habit of finding out about who the author of the information is as well as the author's track record with a total score of 32, achieving a digital literacy index of 43.84% in the low category. Student statement (S7) related to the habit of comparing various sources of information to confirm the news is true or false, with a total score of 57, achieving a digital literacy index of 78.08% in the high category, student statement (S8) related to students' curiosity about their interlocutors online, thus checking their identity, with a total score of 55, achieving a digital literacy index of 75.34% in the medium category.

The third indicator, namely, the ability to communicate, showed that student statements (S9) related to the ability to interact with various digital technology communication devices, with a total score of 58, achieved a digital literacy index of 79.45% in the high category, student statements (S10) related to sharing data and information with others through adapted technology, with a total score of 56, achieved a digital literacy index of 76.71% in the high category. Student statement (S11) related to considering and adjusting how to communicate with others, with a total score of 71, achieving a digital literacy index of 97.26% in the high category, student statement (S12) related to considering and being aware of cultural, religious

and age diversity when sharing information, with a total score of 70, achieving a digital literacy index of 95.89% in the high category.

The fourth indicator, namely personal safety, showed that student statements (S13) related to writing opinions using polite language, with a total score of 67, achieving a digital literacy index of 91.78% in the high category, student statements (S14) readiness to accept the consequences of what is written on the internet so that it can be accessed by many people, with a total score of 67, achieving a digital literacy index of 91.78% in the high category, student statements (S15) related to always listing or asking permission from the creator of the work, whether writing, design, photos or images, with a total score of 56, achieving a digital literacy index of 76.71% in the high category. student statement (S16) related to not spreading information that contains hate speech, slander or hoaxes, with a total score of 73, achieving a digital literacy index of 100% in the high category.

The fifth indicator, namely personal safety, showed that student statements (S17) related to students' ability to regulate who can see their posts on personal social media accounts, with a total score of 68, achieved a digital literacy index of 93.15% in the high category, student statements (S18) how to report social network abuse, if there is post content that harms me, with a total score of 58, achieved a digital literacy index of 79.45% in the high category, student statements (S19) related to disabling the GPS option or other social media applications, with a total score of 62, achieved a digital literacy index of 84.93% in the high category, student statements (S20) related to not uploading personal data on social media, with a total score of 59, achieved a digital literacy index of 80.42% in the high category.

The sixth indicator, namely device security, showed that student statements (S21) related to using software to find and remove viruses on mobile phones or computers, with a total score of 68, achieved a digital literacy index of 93.15% in the high category, student statements (S22) the ability to distinguish emails containing spam, viruses or malware, with a total score of 71, achieved a digital literacy index of 97,26% in the high category, student statements (S23) related to the habit of creating secure passwords with a combination of numbers, letters and punctuation marks, with a total score of 70, achieving a digital literacy index of 95.89% in the high category, student statements (S24) related to backing up data in several places, with a total score of 65, achieving a digital literacy index of 89.04% in the high category.

The seventh indicator, namely the ability to use technology, showed that student statements (S25) related to the ability to connect devices to wifi networks, with a total score of 40, achieved a digital literacy index of 54.79% in the medium category, student statements (S26) related to the ability to download files or applications, with a total score of 39, achieved a digital literacy index of 53.42% in the medium category, student statements (S27) related to the ability to upload files to the internet, with a total of 64, achieved a digital literacy index of 87.67% in the high category, student statements (S28) related to installing applications on the device with a total score of 49, achieved a digital literacy index of 67.12% in the medium category.

Based on this data, the average value of digital literacy skills of MAN students reached 82.33, including 22 statements in the high digital literacy category, 5 statements in the medium category and 1 statement in the low category, it can be concluded that in terms of information and data literacy statements, critical thinking, communication skills, technology ethics, individual security, device security and ability to use technology fall into the excellent category, this is due to the MAN curriculum designed in combining general and religious

knowledge which prioritizes ethics and morals in using technology. Students' ability to think critically is still low, due to the lack of integration in each subject. (Santo Gitakarma, n.d.; Williams & Stockdale, 2003) the lack of learning approaches or models that optimize the empowerment of students' skills. (Lack of *Critical Thinking Models and Approaches*, n.d.; Mahanal et al., n.d., 2019). The data above describes the results of research conducted to measure digital literacy skills in high school, vocational and MAN students in Bengkulu province at the southern tip of Sumatra-Indonesia. The study used a quantitative approach and collected data with a sample of 219 students. The data was analyzed using Confirmatory Factor Analysis (CFA) techniques to verify the validity of the instrument and Cronbach's Alpha to estimate reliability. The results of this study show that the digital literacy instrument has met the good criteria and has a very high reliability estimate value of 0.730.

This study identified 7 indicators and 28 items divided into indicators such as information and data *digital literacy skills*, communication, collaboration, personal security, device and technology security. The results show that all of the above indicators have met the valid criteria. The data is used as a tool to measure digital literacy skills in high school, vocational and MAN students. These students are referred to as digital natives and currently can be said to be generation Z people, where in Indonesia in the post-covid digital era, they are accustomed to technology from an early age. However, what schools must continue to optimize is to hone critical thinking skills and the ability to use technology in learning, so that it will have a real impact when there is student interactivity with critical thinking and online material as a resource and one of them smart technology has a contribution to a positive impact (Kopotun et al., 2020; Saadé et al., 2012).

The pattern of readiness of SMA, SMK and MAN students in facing the challenges of current digital technology can be reflected in technical skills in using software and hardware needed in accessing and using various digital information, students were able to identify reliable sources and distinguish between accurate information or not, so students still need guidance from teachers, parents and society in building an understanding of digital ethics, including copyright, privacy, security and responsibility in using technology, and interacting in today's digital environment, critical thinking skills are still in the medium category for MAN students because guidance is needed for the ability to critically analyze and evaluate the truth of information received or assumptions about information encountered online. When students have good digital literacy skills, it is directly proportional to the level of their ability to think critically (Cintamulya et al., 2023; Kurniawan et al., 2023).

Conclusion

Based on the resulted of the study, it can be concluded that these patterns provide an overview of the extent to which they are ready to face the demands and opportunities offered by the increasingly digitized information society in this era. By understanding these patterns, educators and policy makers can design more effective educational strategies to improve the digital literacy skills of students in Indonesia, specifically the need to optimize students' abilities in the critical thinking sub index, due to their low curiosity in the ability to identify information biases and assumptions in the information they encounter online without finding out about the author of the information and the author's track record, so that students will be more vulnerable to receiving information that has not been properly verified or fake and can have an impact on potential targets for irresponsible parties. In the sub-index of the ability to use technology, it is not optimal because students are only consumers where they are used to

enjoying content rather than creating content or developing technology, so their abilities such as using productive applications are less desirable due to limitations in digital literacy skills.

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References

- Abrams, S. S., Schaefer, M. B., & Ness, D. (2019). Adolescents' Digital Literacies in Flux: Intersections of Voice, Empowerment, and Practices. *Journal of Media Literacy Education, 11*(2), 79–94. <https://doi.org/10.23860/jmle-2019-11-2-5>
- Alakrash, H. M., Razak, N. A., & Krish, P. (2022). The Application of Digital Platforms in Learning English Language. *International Journal of Information and Education Technology, 12*(9), 899–904. <https://doi.org/10.18178/ijiet.2022.12.9.1699>
- Andersen, L. M. B., Reavley, N. J., Bøggild, H., & Overgaard, C. (2022). The role of social technologies in community care – A realist evaluation of a Danish web-based citizen-to-citizen platform adopted in community care to promote belonging and mental health. *Health and Social Care in the Community, 30*(2), e435–e444. <https://doi.org/10.1111/hsc.13222>
- Andresen, L., Boud, D., & Cohen, R. (n.d.). *EXPERIENCE-BASED LEARNING*.
- Antee, A. (2021). Student perceptions and mobile technology adoption: implications for lower-income students shifting to digital. *Educational Technology Research and Development, 69*(1), 191–194. <https://doi.org/10.1007/s11423-020-09855-5>
- Anthonyamy, L. (2023). Being learners with mental resilience as outcomes of metacognitive strategies in an academic context. *Cogent Education, 10*(1). <https://doi.org/10.1080/2331186X.2023.2219497>
- Arafah, B., & Hasyim, M. (2023). Digital Literacy: The Right Solution to Overcome the Various Problems of Meaning and Communication on Social Media. *Studies in Media and Communication, 11*(4), 19. <https://doi.org/10.11114/smc.v11i4.6003>
- Arslantas, T. K., & Gul, A. (2022). Digital literacy skills of university students with visual impairment: A mixed-methods analysis. *Education and Information Technologies, 27*(4), 5605–5625. <https://doi.org/10.1007/s10639-021-10860-1>
- Belshaw, D. A. J. (2012). *What is “digital literacy”? A pragmatic Investigation*. Durham University.
- Brott, P. (2006). Counselor Education Accountability: Training the Effective Professional School Counselor. *Professional School Counseling, 10*(2), 179–188. <https://doi.org/10.5330/prsc.10.2.d61g0v3738863652>
- Cassie Hague and Sarah Payton. (2010). *Digital Literacy Across the Curriculum*. Futurelab.
- Chan, B. (2021). Sidecar Learning vs LibWizard: A Comparison of Two Split-Screen Tutorial Platforms. *Journal of Web Librarianship, 15*(2), 90–103. <https://doi.org/10.1080/19322909.2021.1927930>

- Cintamulya, I., Mawartiningsih, L., & Warli, W. (2023). The Effect of Optimizing Digital and Information Literacy in Writing Scientific Articles on Students' Critical Thinking Skills. *AL-ISHLAH: Jurnal Pendidikan*, 15(2), 1987–1998. <https://doi.org/10.35445/alishlah.v15i2.3062>
- Cradduck, L., Gregory, M. A., & Campbell, L. H. (2022). University Students' Engagement with Devices and Technology. *Journal of Telecommunications and the Digital Economy*, 10(2), 236–266. <https://doi.org/10.18080/jtde.v10n2.594>
- Dewi, C. A., Pahriah, P., & Purmadi, A. (2021). The Urgency of Digital Literacy for Generation Z Students in Chemistry Learning. *International Journal of Emerging Technologies in Learning*, 16(11), 88–103. <https://doi.org/10.3991/ijet.v16i11.19871>
- Evans, R., & Midford, S. (2022). Teaching historical literacies to digital learners via popular culture. *Arts and Humanities in Higher Education*, 21(3), 285–301. <https://doi.org/10.1177/14740222211050566>
- Kopotun, I. M., Durdynets, M. Y., Teremtsova, N. V., Markina, L. L., & Prisnyakova, L. M. (2020). The use of smart technologies in the professional training of students of the law departments for the development of their critical thinking. *International Journal of Learning, Teaching and Educational Research*, 19(3), 174–187. <https://doi.org/10.26803/ijlter.19.3.10>
- kurang model dan pendekatan berfikir kritis.* (n.d.).
- Kurniawan, D. A., Darmaji, D., Astalini, A., & Muslimatul Husna, S. (2023). Study of Critical Thinking Skills, Science Process Skills and Digital Literacy: Reviewed Based on the Gender. *Jurnal Penelitian Pendidikan IPA*, 9(4), 1741–1752. <https://doi.org/10.29303/jppipa.v9i4.1644>
- Mahanal, S., Tendrita, M., Ramadhan, F., & Zubaidah, S. (n.d.). *Anatolian Journal of Instruction THE ANALYSIS OF STUDENTS' CRITICAL THINKING SKILLS ON BIOLOGY SUBJECT The Analysis of Students' Critical Thinking Skills on Biology Student.*
- Mahanal, S., Zubaidah, S., Sumiati, I. D., Sari, T. M., & Ismirawati, N. (2019). RICOSRE: A learning model to develop critical thinking skills for students with different academic abilities. *International Journal of Instruction*, 12(2), 417–434. <https://doi.org/10.29333/iji.2019.12227a>
- Maureen, I. Y., van der Meij, H., & de Jong, T. (2020). Enhancing Storytelling Activities to Support Early (Digital) Literacy Development in Early Childhood Education. *International Journal of Early Childhood*, 52(1), 55–76. <https://doi.org/10.1007/s13158-020-00263-7>
- Nichols, T. P., & LeBlanc, R. J. (2021). Media education and the limits of “literacy”: Ecological orientations to performative platforms. *Curriculum Inquiry*, 51(4), 389–412. <https://doi.org/10.1080/03626784.2020.1865104>

- Pala, Ş. M., & Başıbüyük, A. (2023). The Predictive Effect of Digital Literacy, Self-Control and Motivation on the Academic Achievement in the Science, Technology and Society Learning Area. *Technology, Knowledge and Learning*, 28(1), 369–385. <https://doi.org/10.1007/s10758-021-09538-x>
- Paul Gilster. (1997). *Digital Literacy*. Wiley Computer Pub.
- Polizzi, G. (2020). Digital literacy and the national curriculum for England: Learning from how the experts engage with and evaluate online content. *Computers and Education*, 152. <https://doi.org/10.1016/j.compedu.2020.103859>
- Prensky, M. (2001). *Do They Really Think Differently?* (Vol. 9, Issue 6). NCB University Press.
- Promoting Digital Literacy Skill for Students through Improved School Curriculum*. (n.d.). <http://hdl.handle.net/10419/249444>
- Qualitative Inquiry And Research Design Choosing Among Five Approaches* by John W. Creswell (z-lib.org). (n.d.).
- Rice, M. F., & Cun, A. (2021). Personalising digital learning for young children: Leveraging psychosocial identities and Techne for literacy development. *British Journal of Educational Technology*, 52(5), 1823–1838. <https://doi.org/10.1111/bjet.13076>
- Rini, R., Mujiyati, Sukanto, I., & Hariri, H. (2022). The Effect of Self-Directed Learning on Students' Digital Literacy Levels in Online Learning. *International Journal of Instruction*, 15(3), 329–344. <https://doi.org/10.29333/iji.2022.15318a>
- Saadé, R. G., Morin, D., & Thomas, J. D. E. (2012). Critical thinking in E-learning environments. *Computers in Human Behavior*, 28(5), 1608–1617. <https://doi.org/10.1016/j.chb.2012.03.025>
- Santo Gitakarma, M. (n.d.). *KRITIS KREATIF SISWA SMK TKJ DI BULELENG*.
- Savic, M. (2022). “I prefer to build trust”: Parenting approaches to nurturing their children’s digital skills. *Media International Australia*, 184(1), 122–135. <https://doi.org/10.1177/1329878X211046396>
- Sukarno, & Widdah, M. El. (2020). The effect of students’ metacognition and digital literacy in virtual lectures during the covid-19 pandemic on achievement in the “methods and strategies on physics learning” course. *Jurnal Pendidikan IPA Indonesia*, 9(4), 477–488. <https://doi.org/10.15294/jpii.v9i4.25332>
- Syefrinando, B., Sukarno, Ariawijaya, M., & Nasukha, A. (2022). the Effect of Digital Literacy Capabilities and Self-Regulation on the Student’S Creativity in Online Physics Teaching. *Jurnal Pendidikan IPA Indonesia*, 11(3), 489–499. <https://doi.org/10.15294/jpii.v11i3.31811>

Turner, K. H., Hicks, T., & Zucker, L. (2020). Connected Reading: A Framework for Understanding How Adolescents Encounter, Evaluate, and Engage With Texts in the Digital Age. *Reading Research Quarterly*, 55(2), 291–309. <https://doi.org/10.1002/rrq.271>

Wiek, A., Xiong, A., Brundiers, K., & van der Leeuw, S. (2014). Integrating problem and project-based learning into sustainability programs: A case study on the school of sustainability at Arizona state university. *International Journal of Sustainability in Higher Education*, 15(4), 431–449. <https://doi.org/10.1108/IJSHE-02-2013-0013>

Williams, R. L., & Stockdale, S. L. (2003). High-performing students with low critical thinking skills. *JGE: The Journal of General Education*, 52(3), 199–225. <https://doi.org/10.1352/jge.2004.0007>

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Unveiling Leadership Dynamics in East Asia Region: A Comprehensive Analysis of Contributors, Collaborative Networks, and Dominant Styles (1980-2022)

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Abstract

Leadership models have undergone shifts influenced by local societal and cultural dynamics, as well as responses to innovations and societal transformations. This study seeks to unravel the individuals contributing significantly to leadership research in different regions of East Asia and examines the impact and shaping of leadership studies. Additionally, it delves into the dynamics of collaborative networks among researchers in East Asia, unveiling cooperative patterns and interactions within. The analysis aims to reveal the intricacies of researcher collaborations, fostering a deeper understanding of the social structures influencing leadership practices. The study utilizes data from the Scopus database, employing keyword searches related to leadership, and conducts bibliometric analysis and social network analysis on relevant research records from 1980 to 2022, focusing on China, Hong Kong, South Korea, Japan, and Taiwan. By addressing these questions, this research aims to provide valuable insights that can contribute to the academic and practical perspectives of leadership in the dynamic and culturally rich context of East Asia. Finally, the research identifies which leadership styles have garnered significant attention in the East Asian region, contributing to an understanding of the predominant leadership styles in the area and offering insights into the continually evolving leadership paradigms. Examining 20,468 research records, the analysis discloses that the predominant leadership themes in East Asia center around transformational and authentic leadership. Notably, parallels in leadership research topics emerge between China and Japan, as well as South Korea and Taiwan. Nevertheless, the underlying causes of these resemblances necessitate additional exploration in future research.

Keywords: East Asia, Science Mapping, Bibliometric Review, Leadership, Transformational Leadership, Stata

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Introduction

History of Leadership Theory and Research

Leadership research has undergone a significant evolution. Early in the 20th century, it concentrated on identifying inherent traits in leaders. Behavioral theories later shifted the focus to observable leadership actions. The 1960's and 1970's introduced contingency theories, emphasizing the impact of situational factors on leadership effectiveness. In the 1980's, James MacGregor Burns and Bernard Bass introduced the concepts of transformational and transactional leadership. It was recorded that transformational leaders, possess the remarkable ability to inspire and motivate their followers to reach higher levels of performance and personal growth. Transformational leadership theory has garnered substantial scholarly attention since its inception more than 40 years ago and continues to be one of the most actively researched leadership paradigms (Dinha et al., 2014). Transformational leadership theory places a significant emphasis on charisma, inspiration, and motivation, which can be influenced by cultural norms and values. Culture plays a role in shaping leadership behaviors. For example, leaders with balanced identity configurations, embracing both global and local cultures, demonstrate more transformational leadership and are more effective in multicultural settings.

The concept of transformational and transactional leadership emerged, emphasizing motivation and rewards. In the 21st century, research has expanded to address digital leadership, diversity, and the neuroscience of leadership. This evolution reflects a dynamic field that adapts to the complexities of leadership in modern society. Transformational leadership represented a substantial departure from previous theories that fixated on static traits or managerial, transactional styles. This approach underscores the leader's pivotal role in igniting inspiration, empowering followers, cultivating a positive organizational culture, and ultimately driving extraordinary achievements. Over time, transformational leadership has firmly established itself as a prominent and influential leadership model, finding applications in various fields and industries.

Leadership is a prominent research topic in social sciences, with transformational leadership theory being a key focus. This theory has garnered substantial empirical evidence and continues to attract significant interest from scholars (Zhou and Velamuri, 2018). In East Asia, researchers may adapt transformational leadership to align with cultural values and preferences, emphasizing intrinsic needs and shared vision. This approach diverges from previous static trait-based or transactional styles, emphasizing the leader's role in inspiring and empowering followers and fostering a positive organizational culture. Transformational leadership has been linked to organizational learning culture, intrinsic motivation, and employee performance (Udin et al., 2023). Over time, transformational leadership has become a prominent and influential model, with applications across various fields and industries.

Shifting Gravity in Research and Spread to the East

The driving force behind the shifting gravity in research from North America to the East from 1980 to 2022 is a complex phenomenon that can be influenced by several factors, first being globalization. As the world became more interconnected through globalization, ideas and research findings began to flow more freely across borders. This facilitated the spread of leadership theories and concepts, including transformational leadership, to different parts of

the world. From the 1980's onwards, several East Asian countries, such as Japan, South Korea, Taiwan, and later China, experienced rapid economic growth and development. This economic prosperity led to increased investment in education and research, including leadership studies.

Secondly, business expansion across borders has driven the need for understanding effective leadership styles in diverse cultural contexts, prompting increased research on transformational leadership in East Asia (Friedman, 1999, 2005). As globalization extends beyond economics into political and cultural spheres, it has become a subject of interest across various disciplines (Spring, 2008; Weber, 2007). Empirical studies highlight the crucial role of transformational leadership in fostering employee creativity and innovative behavior (Grošelj et al., 2020; Jyoti and Dev, 2015). Transformational leaders significantly impact organizational performance through employee motivation (Garad et al., 2022). Moreover, transformational leadership behaviors, such as intellectual stimulation and inspirational motivation, correlate with improved firm performance (Jensen et al., 2020). In Chinese SMEs, transformational leadership positively influences sustainable organizational innovation, enhancing productivity and international performance (Cui et al., 2022). Additionally, motivating work characteristics bolster transformational leadership, leading to more vigorous leadership behaviors (Morf & Bakker, 2022).

Third, cross-cultural research has gained prominence as scholars recognize the limitations of applying leadership theories universally. There is a growing interest in understanding how concepts like transformational leadership vary across cultural contexts. Studies have demonstrated the effectiveness of transformational leadership in diverse cultures, though its impact may be influenced by cultural norms (Caza et al., 2021). Integration of leadership values, education, and practices from both Western and Eastern cultures is essential to address global challenges effectively. Gunter and Ribbins highlight various research methods in educational leadership studies, emphasizing methodological rigor and the need for reflexivity to address biases and limitations (Gunter & Ribbins, 2002). One central theme is "knowledge transfer," focusing not only on generating knowledge but also on disseminating and applying it effectively in educational leadership practice. Collaboration between researchers and practitioners is crucial to bridge this gap and ensure research findings are relevant in real-world educational contexts (Gunter & Ribbins, 2002).

Fourth, would be research collaboration. Globalization remains relatively unexplored and underdeveloped in numerous aspects of educational research. This is partially attributed to the perception that it is an abstract concept challenging to relate to day-to-day activities within educational institutions (Brooks and Normore, 2010). Additionally, there is a tendency to focus on more immediate and localized priorities, as noted by Friedman (1999). However, it is worth noting that a growing number of educators are now recognizing that issues related to globalization have a significant impact on their local teaching practices. As Spring (2008) elaborates, 'research on globalization and education entails the examination of intertwined global discourses, processes, and institutions that influence local educational practices and policies' (p. 330). "Increased international collaboration among researchers allowed for the exchange of ideas and methodologies. Research collaborations between North American and East Asian scholars helped bridge the gap and promote the study of transformational leadership in the East. Education systems and individual schools are increasingly adopting a business-oriented approach, complete with managerial challenges and a focus on achieving measurable outcomes.

Between 1990 and 2003, research on transformational leadership surpassed all other leadership theories combined (Sun et al., 2017). Effective school leadership is crucial for driving performance and student success, prompting questions about leaders' management skills and strategies. Training in transformational leadership styles is recommended for educational leaders, given their proven ability to enhance performance in both business and educational settings. Transformational leadership significantly influences education by inspiring vision, motivating staff and students, fostering a positive school culture, and prioritizing leadership development, leading to improved teaching and learning outcomes. Research shows that transformational leadership enhances teachers' performance through increased motivation and commitment (Talib et al., 2019), positively impacting educational stakeholders, including students, teachers, and schools (Reid, 2023). Transformational school leadership, as emphasized by Wilson Heenan et al. (2022), positively impacts school, teacher, and student outcomes, highlighting its importance in theory development and leader training. According to Alamo & Falla (2023), transformational leadership is highly valued in education for its ability to foster innovation, facilitate change, and engage stakeholders in problem-solving. Education in transformational leadership is deemed essential for promoting purpose, trust, and innovation in educational settings.

Empirical Findings

The field of leadership studies has garnered global recognition as organizations increasingly acknowledge the pivotal role effective leadership plays in achieving success. This worldwide interest has ignited extensive research into diverse leadership styles, with particular emphasis on transformational leadership. As leadership theories evolved, the early 1980s marked a turning point, marked by discontent with the previous leadership theories, which primarily categorized leadership as either people-oriented or task-oriented (Gardner & Cleavenger, 1998). Consequently, a significant shift transpired in leadership studies, giving rise to a new archetype rooted in the principles of transformational leadership (Conger & Kanungo, 1994). This approach is regarded as a pinnacle in leadership evolution, although it bears some association with trait theory. An analysis of 188 cases conducted by Lowe and Gardner (2000) revealed that the transformational leadership theory gained greater attention during the period from 1995 to 1999 compared to the preceding period of 1990 to 1994. Dinh et al. (2014) conducted a comprehensive review of articles published within the period from 2000 to 2012 in ten prestigious academic journals. By analyzing 752 cases, these scholars arrived at the conclusion that transformational leadership theory maintains its prominent status as one of the prevailing paradigms, surpassing other leadership theories like trait theory, behavioral theories, and situational theories (Ghasabeh, M. S., Reaiche, C., & Soosay, C., 2015).

Leadership development programs need to focus on developing a culture of participation, trust, teamwork, and accountability by integrating Western and Eastern values. Overall, there is a need for further research on transformational leadership in Eastern cultures to understand its antecedents and effects (Gill, Levine & Pitt 1998). Over time, researchers in East Asia may have contributed new insights and perspectives to the transformational leadership theory, which added to its appeal and relevance in the region. It's important to note that this shift in research is not limited to transformational leadership alone; similar trends have been observed in other areas of organizational and leadership studies. Innovation and innovative work behavior have been regarded as essential for businesses to adapt to the fast-changing business environment efficiently and have become central for companies to maintain business growth and success (Lin et al., 2022). However, it is important to note that the impact of transformational leadership on employee performance may be influenced by other factors

such as job design and work characteristics. Overall, the shift reflects the evolving nature of leadership research in a globalized world, with scholars from different regions contributing to the development and adaptation of leadership theories to suit diverse cultural and organizational contexts.

A systematic study by Hallinger and Kovacevic (2019) titled, "A Bibliometric Review of Research on Educational Administration: Science Mapping the Literature, 1960 to 2018," utilized "science mapping" as a tool to comprehend the evolution of research in educational administration (EA). Science mapping techniques are employed to identify crucial aspects of the field, including key research themes, and pivotal works that have shaped educational administration. The objective in their study was to chronicle the size, growth pattern, and geographical distribution of EA research, pinpoint influential scholars, and publications, and elucidate the "intellectual structure" of the field. Despite the widespread application of science mapping in science, medicine, and social sciences, its use in education is relatively recent. The authors identified 22,361 peer-reviewed articles published in 22 Scopus-indexed EA journals from 1960 to 2018. VOSviewer, Excel, and Tableau software were employed to analyze the dataset. The review revealed a substantial expansion in the EA knowledge base since 1960, characterized by an escalating growth rate and increasing gender and geographic diversity in the past two decades. Through co-citation analysis, the review pinpointed canonical documents—highly influential works with enduring impact spanning several decades. The findings underscored a paradigm shift from "school administration" to "school leadership" over six decades. Notably, "leadership for student learning and development" emerged as the "cognitive anchor" of the intellectual structure within the EA knowledge base. The authors concluded that science mapping provides a novel and valuable approach for unraveling the historical development of academic disciplines. A significant finding is the shift in research focus from traditional administrative functions to a more holistic approach, including topics like leadership, policy, and educational reform, mirroring broader changes in education. The study identifies a network of highly cited authors and core influential journals, underscoring the role of specific scholars and publications in shaping the discipline. Critical milestones and key periods of growth and innovation in educational administration research are identified, providing historical context for the field's development. Various co-citation clusters are uncovered, revealing the emergence of subfields and themes within educational administration, such as leadership, accountability, and educational change. This granular analysis aids researchers and policymakers in better understanding the dynamics and trends within educational administration research. In conclusion, the study serves as a comprehensive resource for understanding the evolution of educational administration research from 1960 to 2018. It highlights growth, evolving research themes, and the contributions of influential scholars and works. Researchers, educators, and policymakers can use this study to navigate the complex field of educational administration and inform future research directions.

Furthermore, Hallinger (2020), science mapped the knowledge base on educational leadership and management specifically from the emerging regions of Asia, Africa, and Latin America from 1965-2018. The studies reflect the diverse challenges and contexts within these regions' educational systems. Researchers have traced the evolution of leadership models over the years, exploring various styles and approaches tailored to the unique needs of each region. Notably, the research has contributed to shaping educational policies and reforms, offering insights into leadership practices that enhance overall educational quality. These studies illuminate the specific challenges faced by educational leaders, such as resource limitations and cultural diversity, while concurrently identifying opportunities for innovation

and improvement in leadership and management. The collaborative patterns among researchers and institutions across regions, revealed through science mapping, suggest a facilitated transfer of knowledge and best practices. In summary, the science mapping reveals a dynamic field that responds to the evolving needs of educational institutions in Asia, Africa, and Latin America, providing valuable insights with implications for both policy and practice.

According to a bibliometric review of international publications on educational leadership and management in Turkey conducted by Gümüş, Bellibaş, Gümüş, and Hallinger (2020) highlights the efforts of Turkish scholars to engage with the global academic community by publishing their research internationally in the area of educational leadership. With science mapping techniques, the study was able to identify trends in research topics, patterns of authorship, and collaboration networks among Turkish researchers in the field of educational leadership and management. The study also identified emerging themes and areas of interest within this field, revealing how research in Turkey is evolving over time. It assessed the extent of international collaboration among Turkish researchers in educational leadership and management, emphasizing the global connections and partnerships that contribute to the development of this field and the potential impact of Turkish research in this field is also considered, including factors such as citation patterns and the visibility of Turkish-authored publications on the international stage. This study provides a comprehensive bibliometric review of international publications related to educational leadership and management research conducted by Turkish scholars, offering insights into research trends, emerging themes, collaboration networks, and the global influence of Turkish contributions to this field.

Hallinger and Kovacevic (2021), further expanded their study, science mapping the knowledge base in educational leadership and management, looking at longitudinal bibliometric analysis from 1960 to 2018. Key findings of the study include historical perspectives that traces the evolution of educational leadership and management research since 1960, highlighting key milestones and periods of growth. Emphasis on the interdisciplinary nature of the field, showing its intersections with related areas like educational administration, policy studies, and organizational behavior. Identification of emerging research themes through bibliometric analysis, including topics such as distributed leadership, instructional leadership, and the influence of leadership on student outcomes and discoveries of influential authors and journals that have significantly contributed to shaping the discourse in the field. Exploration of the internationalization of research in educational leadership and management, indicating a global perspective that has developed over time and that the utilization of a longitudinal approach to understand how research priorities have evolved, aligning with changing educational needs and societal trends. They found a revelation of patterns of research collaboration among scholars and institutions, highlighting the collaborative nature of research in this field of research. The study emphasizes the interdisciplinary nature of the field, identifies emerging research themes, highlights influential figures and publications, tracks the field's evolution, and accentuates the collaborative aspect of educational leadership and management research. This study is a valuable resource for researchers, educators, and policymakers seeking insights into the trends and developments in this area of study.

Another study by McGinity, R., Heffernan, A., & Courtney, S. (2022), looks at data over the past 50 years of educational leadership and pinpoints how research has expanded significantly, encompassing various traditions, audiences, and publication outlets. Their research article examines a thorough analysis of educational leadership research trends using

keyword searches across all journal publications spanning five decades and investigating researchers' contributions, epistemological stances, and journal preferences. Also explored was the balance between empirical and conceptual studies, geographical distribution, and the application of theory. Their findings indicated that critical educational leadership research is widespread globally but is more frequently published in high-ranking general education journals or lower-ranking journals specifically focused on educational leadership. This research provides a unique, robust, and relatively comprehensive empirical foundation for identifying key trends, gaps, and omissions in the field of educational leadership research over time. It enhances our understanding of potentially underexplored areas and sheds light on how power dynamics are shaped and perpetuated within the research landscape.

There is a literature gap in this thread of literature. This paper aims to leverage the bibliometric data restricted from Scopus. I propose three research question as following.

RQ1: Who are the most prolific authors in the East Asian region, and what is their distribution by country?

RQ2: What does the co-authorship network of the top 3 researchers in the field of leadership look like in East Asia?

RQ3: Is there any discernible variation in leadership topics among countries in East Asia?

Methodology

Data Collection and Description

To build the database, this paper searched and downloaded publications records from Scopus. The Python Pybliometrics library (Rose and Kitchin, 2019) was employed to access the Scopus API and input 63 primary keywords listed in Table 1 for the search. Papers with titles, abstracts, or keywords matching any of these specified keywords were considered. Records published between 1980 and 2022 were then filtered, resulting in a dataset of 20,468 papers for this study. Additionally, the Scopus API was utilized to gather author information, including affiliations and country details, which were used to delineate the publication regions. The data were structured by aligning them with the country/region classifications provided by the United Nations. Given the study's focus on the East Asia Summit (EAS) region, papers authored by individuals affiliated with institutions in the Southeast Asia (SEA) region were specifically extracted for analysis.

Descriptive Statistics of Publication Records

Among the 20,468 publication records related to various leadership topics collected for this study from 1980 to 2022, the top three in terms of quantity are Transformational leadership (22.6%), Ethical leadership (6.2%), and Women leadership (5%) in that order.

Social Network Analysis Methods

Degree Centrality measures the number of connections a node has. For a node v , the centrality $CD(v)$ is defined as:

$$CD(v) = \text{deg}(v) / (N-1)$$

Where $\text{deg}(v)$ is the degree of node v , i.e., the number of nodes directly connected to v , and N is the total number of nodes in the graph.

Results

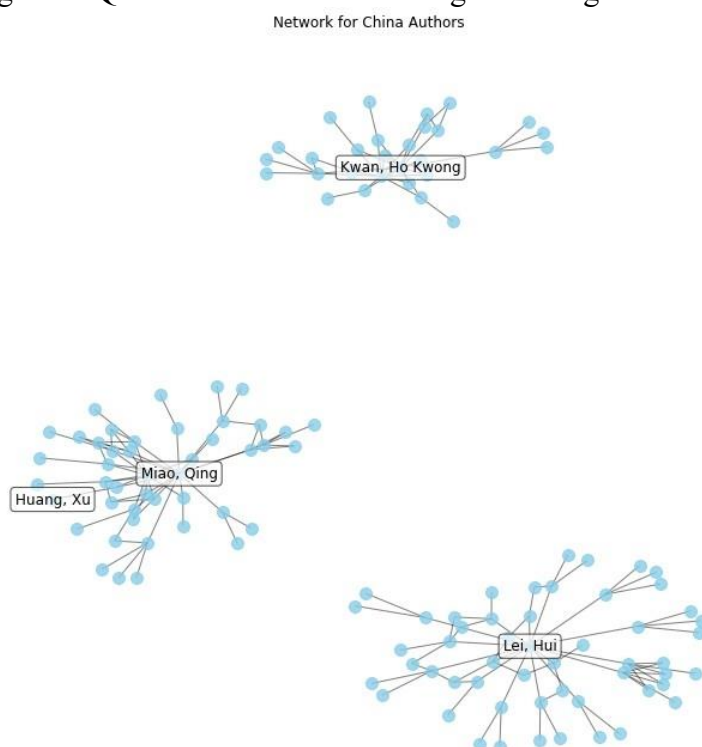
Once the selected papers were identified, this paper further parse the information including author's name and author's country. Combined with the "leadership topic" label attached to each publication, and the amount of publications, we are able to identify which leadership topics were chosen for their papers.

Table 1: Q1 EAS The top three regions with the most publication records

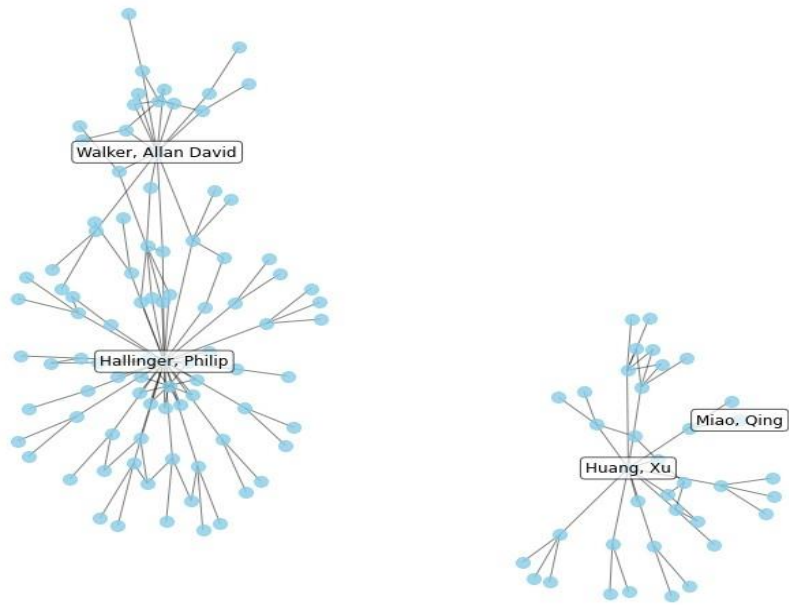
Country	Author name	Leadership topics	No. of Publications
China	Miao, Qing	Ethical leadership Participative leadership Servant leadership Transformational leadership	17
	Kwan, Ho Kwong	Authentic leadership Constructive leadership Empowering leadership Ethical leadership Servant leadership	14
	Lei, Hui	Ethical leadership Transformational leadership	14
Hong Kong	Hallinger, Philip	Collaborative leadership Distributed leadership Instructional leadership Leadership for learning	13
	Huang, Xu	Implicit leadership Moral leadership Participative leadership Transformational leadership	12
	Walker, Allan David	Authentic leadership Distributed leadership Instructional leadership Paternalistic leadership Teacher leadership	11
Taiwan	Cheng, Bor-Shiuan	Charismatic leadership Ethical leadership Implicit leadership Moral leadership Paternalistic leadership Transformational leadership	13
	Chang, Yiying	Charismatic leadership Participative leadership Transformational leadership	10
	Lin, Chiehpeng	Authentic leadership Charismatic leadership Ethical leadership Moral leadership	10

		Paternalistic leadership Transactional leadership Transformational leadership	
South Korea	Kang, Seungwan	Distributed leadership Empowering leadership Ethical leadership Servant leadership Supervisory leadership Transformational leadership	14
	Hunsaker, William D.	Spiritual leadership	12
	Kim, Byungjik	Authentic leadership Ethical leadership Transformational leadership	9
Japan	Kim, Soyeon	Female leadership Strategic leadership Transformational leadership	5
	Ishikawa, Jun	Managerial leadership Transformational leadership	4
	Lo, Patrick	Servant leadership Transformational leadership Participative leadership	3

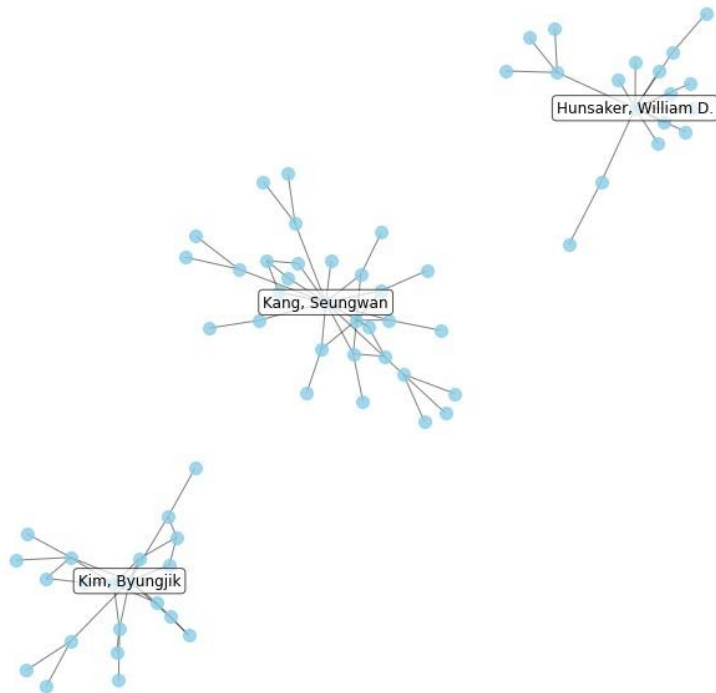
Figure 1: Q2 EAS Social network diagram of regional authors



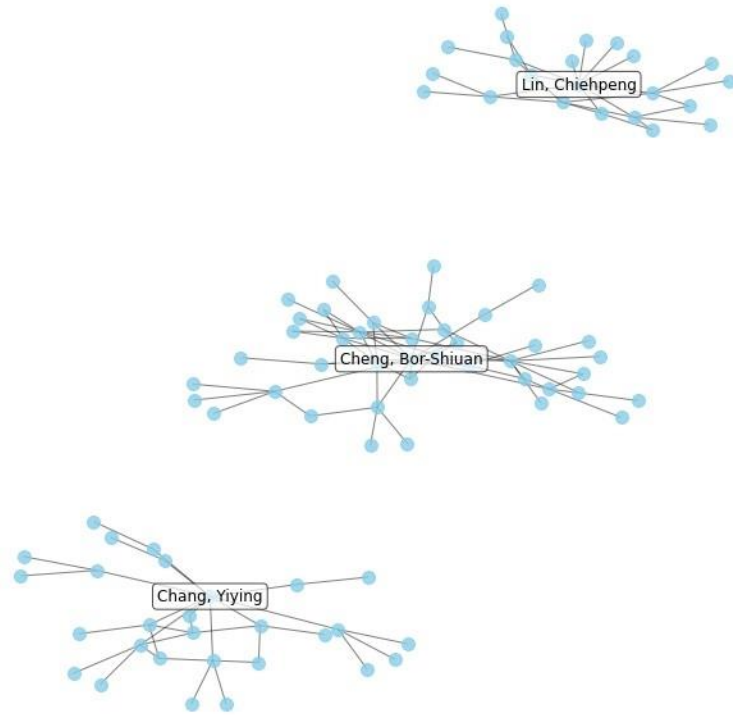
Network for Hong Kong Authors



Network for Korea Authors



Network for Taiwan Authors



Network for Japan Authors

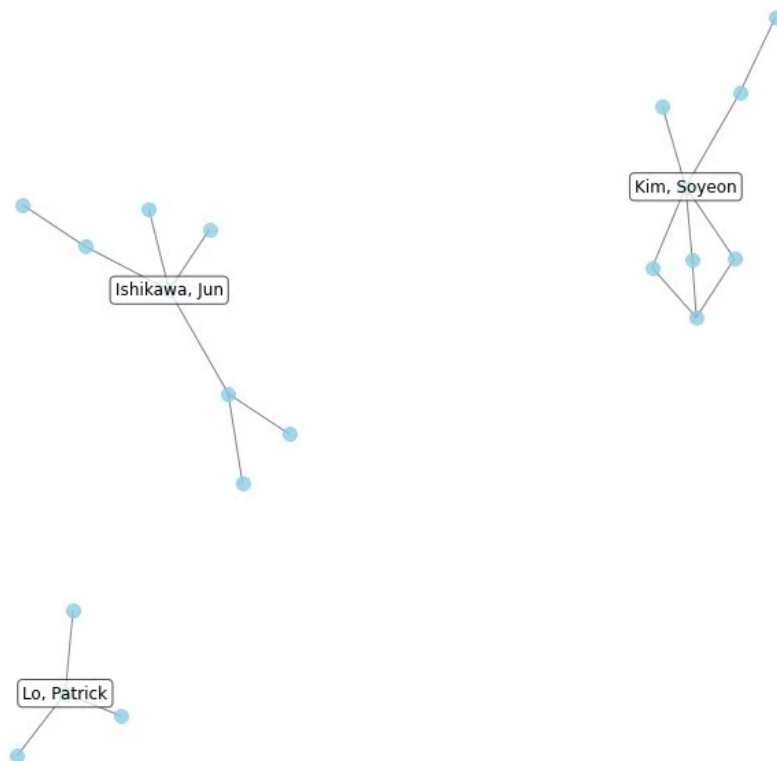
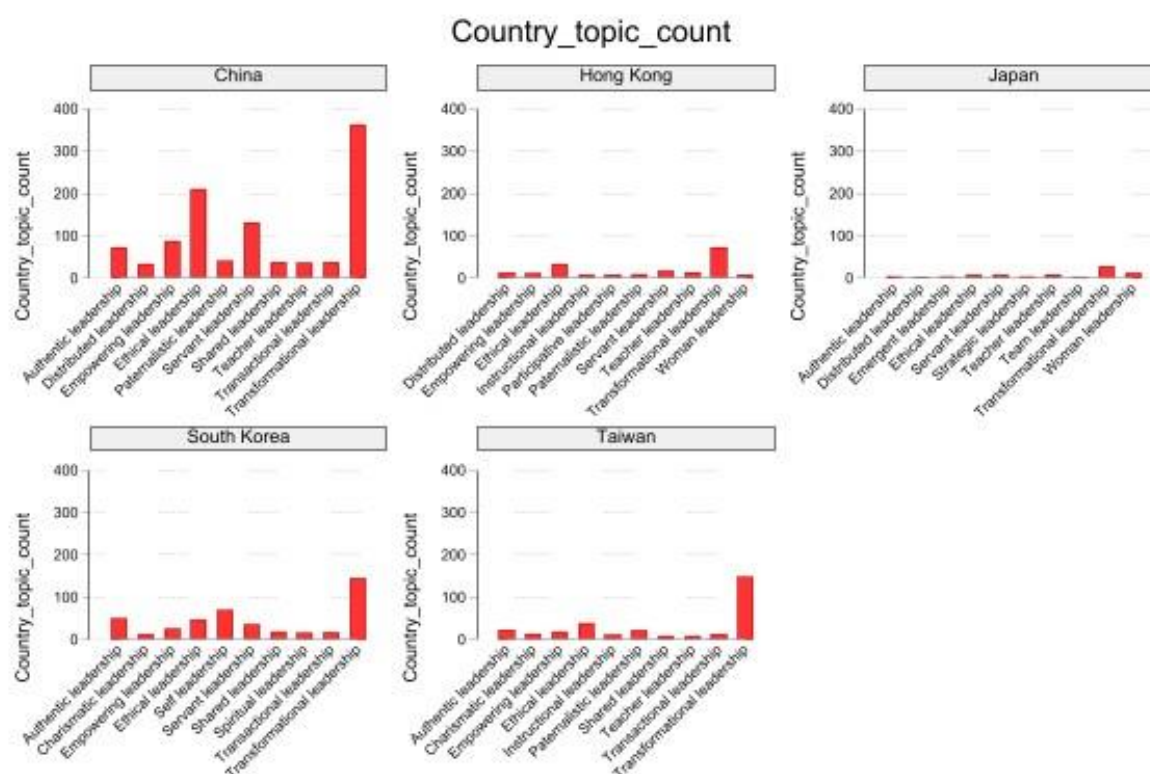


Figure 2: Q3 EAS The top ten leading categories in regional studies



Rose, M. E., & Kitchin, J. R. (2019). Pybliometrics: Scriptable bibliometrics using a Python interface to Scopus. *SoftwareX*, 10, 100263.

Analytics Strategy

This paper joins bibliographic and network analysis to investigate the evolvement of leadership research and to conduct a longitudinal analysis of co-authorship patterns.

Conclusion

The examination of publication records spanning from 1980 to 2022 offers valuable insights into the expansive landscape of leadership research. Among the 20,468 analyzed records, transformational leadership, ethical leadership, and women leadership emerge as the foremost topics in terms of prevalence. Notably, transformational leadership stands out with a substantial lead in quantity. Delving deeper into the geographical distribution of research contributions reveals significant scholarly activity across East Asia. China, notably represented by prolific authors such as Miao Qing and Kwan Ho Kwong, has made noteworthy strides in exploring topics such as ethical leadership, participative leadership, and servant leadership. Similarly, Hong Kong, Taiwan, South Korea, and Japan exhibit vibrant research landscapes, with scholars investigating diverse aspects of leadership, including collaborative leadership, instructional leadership, and empowerment.

Addressing Research Question 1, key figures shaping leadership discourse in East Asia include Miao Qing and Kwan Ho Kwong from China, Hallinger Philip from Hong Kong, Cheng Bor-Shiuan and Chang Yiying from Taiwan, Kang Seungwan from South Korea, and Kim Soyeon from Japan. Their collective contributions span an array of leadership topics, ranging from ethical leadership to transformational leadership, indicating a rich tapestry of scholarly engagement within the region.

Research Question 2 delves into the collaborative networks of the top researchers, revealing robust interdisciplinary alliances. Miao Qing, Kwan Ho Kwong, and Hallinger Philip, among others, engage in extensive collaborations with scholars from diverse backgrounds and institutions, fostering a dynamic and interconnected landscape of leadership research within East Asia.

Research Question 3 sheds light on the nuanced variations in leadership research topics across East Asian countries. For instance, while China predominantly focuses on ethical and transformational leadership, Taiwan's research spectrum encompasses charismatic and participative leadership. Hong Kong's focus on collaborative leadership aligns with the region's high value with the region's high value on educational excellence and the need for leaders who can foster environments conducive to learning and cooperation. South Korea's scholarly endeavors gravitate towards distributed and empowering leadership, reflecting a proclivity towards collaborative and inclusive leadership paradigms. Meanwhile, Japan exhibits a distinct interest in strategic and female leadership, delineating unique research priorities within the region.

This comprehensive analysis underscores the global interest and commitment to advancing leadership scholarship, with scholars from East Asia making substantial contributions to the field. The prevalence of transformational and ethical leadership underscores a persistent emphasis on organizational effectiveness and ethical conduct. Furthermore, the spotlight on women leadership underscores a growing acknowledgment of gender diversity's pivotal role in leadership contexts. Looking ahead, sustained research efforts and cross-regional collaborations will be pivotal in deepening our understanding of leadership dynamics and addressing contemporary challenges. By leveraging existing knowledge and exploring emerging frontiers, scholars can drive meaningful progress towards fostering effective leadership practices and catalyzing positive societal change.

References

- Álamo, M., & Falla, D. (2023). Transformational leadership and its relationship with socio-emotional and moral competencies in pre-service teachers. *Psychology, Society and Education, 15*(1), 48-56.
- Barrat, A., Barthelemy, M., Pastor-Satorras, R., & Vespignani, A. (2004). The architecture of complex weighted networks. *Proceedings of the national academy of sciences, 101*(11), 3747-3752.
- Bastari, A., Eliyana, A., & Wijayanti, T. (2020). Effects of transformational leadership styles on job performance with job motivation as mediation: A study in a state-owned enterprise. *Management Science Letters, 10*(12), 2883-2888.
- Borgatti, S. P., & Everett, M. G. (2000). Models of core/periphery structures. *Social Networks, 21*(4), 375–395.
- Brooks, J. S., & Normore, A. H. (2010). Educational leadership and globalization: Literacy for a global perspective. *Educational policy, 24*(1), 52-82.
- Cattani, G., & Ferriani, S. (2008). A core/periphery perspective on individual creative performance: Social networks and cinematic achievements in the Hollywood film industry. *Organization Science, 19*(6), 1526–5455.
- Caza, A., Caza, B. B., & Posner, B. Z. (2021). Transformational leadership across cultures: Follower perception and satisfaction. *Administrative Sciences, 11*(1), 32.
- Cherven, K. (2015). *Mastering Gephi Network Visualization*. Packt Publishing Ltd.
- Conger, J. A., & Kanungo, R. N. (1994). Charismatic Leadership in Organizations: Perceived Behavioral Attributes and their Measurement. *Journal of Organizational Behavior, 15*(5), 439-452.
- Csermely, P., London, A., Wu, L.-Y., & Uzzi, B. (2013). Structure and dynamics of core/periphery networks. *Journal of Complex Networks, 1*(2), 93–123.
- Cui, F., Lim, H., & Song, J. (2022). The influence of leadership style in China SMEs on enterprise innovation performance: the mediating roles of organizational learning. *Sustainability, 14*(6), 3249.
- Dinha, J. E., Lord, R. G., Gardner, W. L., Meuser, J. D., Liden, R. C., & Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. *Leadership Quarterly, 25*(1), 36-62.
- Friedman, T. L. (2000). The Lexus and the olive tree: *Understanding globalization*. Farrar, Straus and Giroux.
- Friedman, T. L. (2005). *The world is flat: A brief history of the twenty-first century*. Macmillan.

- Garad, A., Haryono, S., Yaya, R., Pratolo, S., & Rahmawati, A. (2022). The relationship between transformational leadership, improving employee's performance and the raising efficiency of organizations. *Management and Production Engineering Review*, 15-30.
- Gardner, WI & Cleavenger, D 1998 'The Impression Management Strategies Associated with Transformational Leadership at the World Class Level', *Management Communication Quarterly*, vol. 12, no. 1, pp. 3-42.
- Ghasabeh, M. S., Soosay, C., & Reaiche, C. (2015). The emerging role of transformational leadership. *The Journal of Developing Areas*, 49(6), 459-467.
- Gill, R., Levine, N., & Pitt, D. C. (1999). Leadership and organizations for the new millennium. *Journal of Leadership Studies*, 5(4), 46-59.
- Grošelj, M., Černe, M., Penger, S., & Grah, B. (2021). Authentic and transformational leadership and innovative work behaviour: the moderating role of psychological empowerment. *European Journal of Innovation Management*, 24(3), 677-706.
- Gümüş, S., Arar, K., & Oplatka, I. (2021). Review of international research on school leadership for social justice, equity and diversity. *Journal of Educational Administration and History*, 53(1), 81-99.
- Gunter, H., & Ribbins, P. (2003). The field of educational leadership: studying maps and mapping studies. *British journal of educational studies*, 51(3), 254-281.
- Hallinger, P., and Kovacevic, J. (2019). A bibliometric review of research on educational administration: science mapping the literature, 1960 to 2018. *Review of Educational Research*, 89(3): 335–369.
- Jensen, M., Potočnik, K., & Chaudhry, S. (2020). A mixed-methods study of CEO transformational leadership and firm performance. *European Management Journal*, 38(6), 836-845.
- Jyoti, J., & Dev, M. (2015). The impact of transformational leadership on employee creativity: the role of learning orientation. *Journal of Asia Business Studies*, 9(1), 78-98.
- Latapy, M., Magnien, C., & Del Vecchio, N. (2008). Basic notions for the analysis of large two-mode networks. *Social networks*, 30(1), 31-48.
- Lin, M., Zhang, X., Ng, B. C. S., & Zhong, L. (2022). The dual influences of team cooperative and competitive orientations on the relationship between empowering leadership and team innovative behaviors. *International Journal of Hospitality Management*, 102, 103160.
- Lowe, K. B., & Gardner, W. L. (2000). Ten years of the leadership quarterly: Contributions and challenges for the future. *The leadership quarterly*, 11(4), 459-514.

- McGinity, R., Heffernan, A., & Courtney, S. J. (2022). Mapping trends in educational-leadership research: A longitudinal examination of knowledge production, approaches and locations. *Educational Management Administration & Leadership*, 50(2), 217-232.
- Morf, M., & Bakker, A. B. (2022). Ups and downs in transformational leadership: A weekly diary study. *European Management Journal*.
- Newman, M. E. (2001). The structure of scientific collaboration networks. *Proceedings of the national academy of sciences*, 98(2), 404-409.
- Newman, M. E. (2006). Modularity and community structure in networks. *Proceedings of the national academy of sciences*, 103(23), 8577-8582.
- Newman, M. (2018). *Networks*. Oxford university press.
- Reid, K. (2023). The Impact of Transformational Leadership Style on Educational Stakeholders. In *Transformational Leadership Styles, Management Strategies, and Communication for Global Leaders* (pp. 165-182). IGI Global.
- Rose, M. E., & Kitchin, J. R. (2019). pybliometrics: Scriptable bibliometrics using a Python interface to Scopus. *SoftwareX*, 10, 100263.
- Scott, J. (2017). *Social network analysis* (4th ed.). SAGE.
- Spring, J. (2008). Research on globalization and education. *Review of educational research*, 78(2), 330-363.
- Sun, J., Chen, X., & Zhang, S. (2017). A review of research evidence on the antecedents of transformational leadership. *Education Sciences*, 7(1), 15.
- Talib, N. Z., Ramli, N. B., Hussin, Z. B., Jamaluddin, S. B., & Saputra, J. (2019). Transformational Leadership and Teacher's Performance: The mediating role of motivation and commitment. *Opción: Revista de Ciencias Humanas y Sociales*, (21), 306-322.
- Udin, U. (2023). A mediation-moderation model of transformational leadership and intrinsic work motivation for nurturing employee performance. *Journal of Social Economics Research*, 10(2), 22-33.
- Vlegels, J., & Huisman, J. (2021). The emergence of the higher education research field (1976–2018): Preferential attachment, smallworldness and fragmentation in its collaboration networks. *Higher Education*, 81, 1079-1095.
- Watts, D. J., & Strogatz, S. H. (1998). Collective dynamics of 'small-world' networks. *nature*, 393(6684), 440-442.
- Weber, E. (2007). Globalization, "glocal" development, and teachers' work: A research agenda. *Review of educational research*, 77(3), 279-309.

Wilson Heenan, I., De Paor, D., Lafferty, N., & Mannix McNamara, P. (2023). The Impact of Transformational School Leadership on School Staff and School Culture in Primary Schools—A Systematic Review of International Literature. *Societies*, 13(6), 133.

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Inflation: The Macroeconomic Consequence of Terror Activity in Pakistan

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Abstract

This study estimates the impact of terror activity on inflation in Pakistan. Considered as one of the most dangerous places in the world, Pakistan is the epicentre of terror activity since September 11, 2001 (9/11). Apart from casualties of innocent people and damage to infrastructure, there are other macroeconomic consequences of terror as well. Terror activity disrupts the supply-chain and influence consumer behaviour that has implications for inflation. After developing the terror index (TI) which captures the impact of terror activity in Pakistan, Autoregressive Distributed Lag (ARDL) model is used on monthly data starting from January 2002 to October 2023. This estimation strategy provides both the short-run and long-run coefficients and analyses the long-run relationship between inflation and terror index. Traditional determinants of inflation such as money supply, government borrowing from the central bank, nominal exchange rate and a dummy for massive floods are used as 'control' variables in this study to gain improved model fit and address the problem of endogeneity. The results show that the coefficient of terror index is statistically significant both in the short-run and the long-run. A rise in terror activity leads to an increase in inflation. Coefficients of control variables are also statistically significant and in line with economic intuition. The assertion that high inflation or fragile economic conditions may lead to terror activity does not hold for Pakistan as the responsibility of more than 90 percent of the terror incidents is claimed by international terrorist organizations or banned local organizations that function on their own extremist ideology. Reverse causality test validates the proposition that inflation is not a determinant of terror activity in Pakistan.

Keywords: Terror Activity, Inflation, Terror Index, Pakistan

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1. Introduction

The tragic incident of September 11, 2001 – remembered as 9/11 – continues to haunt Pakistan even after more than two decades. Pakistan has been a frontline state in the “global war on terror” since 9/11 (Tellis 2008). On one hand, Pakistan gained recognition of being a key ally of the United States and received monetary benefits in the form of Coalition Support Fund (CSF). On the other hand, the social unrest, financial cost, and the macroeconomic consequences Pakistan faced is far superior. More than 250 terror related events took place in Pakistan during the last two decades. Since the start of October 2001 till June 2018, the total cost estimated is US\$ 127 billion which is greater than the outstanding external debt stock of Pakistan. These costs include compensation to victims, loss of physical infrastructure, decline in tax collection and export revenues etc. However, the macroeconomics consequences of terrorism are beyond the cost estimated above.

Investment, consumption, and income levels decline due to a rise in terror activity. In addition, terrorism also brings the changes in trend and business cycle of the Israeli economy. The number of victims died due to terrorism is about the same size as due to car accidents. However, the damage caused by terrorism leads to a 3 percent decline in annual consumption per capita (Eckstein and Tsiddon 2004). Per capita GDP in the Basque country declines by 10 percentage points after the outbreak of terrorism relative to synthetic control region without terrorism. Furthermore, authors use the 1998-1999 truce as a natural experiment and find that stocks of firms show a positive relative performance when truce became credible and a negative relative performance at the end of the cease-fire. This sort could potentially have an undesirable impact if terrorists learn that their actions affect the economy negatively, assuming that is what they want to do.

A study on Jerusalem house prices reveals that the house prices in the cities impacted by terror activity decreases by 10-12 percent within six months of a shooting event. Nevertheless, impulse response functions indicates that prices revert to their pre-shooting levels within 18 months of the shooting event (Arbel, et al. 2010). The episodes of peace and violence influence the real estate market in Northern Ireland. Political stability is largely associated with positive economic outcomes reflected by high prices in the housing market (Besley and Mueller 2012). Terror activity possesses social and economic implications. Dynamics and costs of crime in a society are influenced by episodes and events of violent incidents (Gould and Stecklov 2009). Similarly, the performance of equity market, foreign exchange market, and other financial markets is impacted by terrorism. Incidents of terrorism can influence both the investor as well as the financial institutions.

A study related to Pakistan establish linkages between inflation, economic growth, and terrorism during the period of 1971-2010. Interestingly, a two-way causality exists between inflation and terrorism (Shahbaz 2013). Just like terrorism, political instability has an impact on Pakistan’s inflation rate. Periods of uncertainty, or political disruptions influence economic conditions of Pakistan.

A glance at the relevant literature indicates that terror activity is not considered as a possible determinant of inflation, particularly in case of Pakistan. Most studies related to Pakistan conclude that Inflation is largely a monetary phenomenon. Apart from missing an important variable like terror activity particularly after 9/11, most studies also fail to address the problem of simultaneity, generally associated with a standard Ordinary Least Squares (OLS) method which would largely yield inconsistent results.

Autoregressive Distributed Lag (ARDL) model is used on monthly data starting from January 2002 to October 2023. This estimation strategy provides both the short-run and long-run coefficients and analyses the long-run relationship between the variables of interest. Traditional determinants of inflation such as monetary growth and government borrowing for budgetary support are controlled variables in this study to gain improved model fit and address endogeneity. A dummy variable for ‘floods’ is also included in this study as a few episodes of massive floods may also have contributed to high inflation. Control variables are also important in this case to capture additional dynamics and potential factors that might influence the long-term and short-term relationships between the variables.

This study is split into following sections: following the introduction in this section, section 2 contains a theoretical framework on how terror activity leads to inflation. In section 3, estimation strategy is explained. Data description and choice of variables are provided in section 4, followed by empirical results in Section 5. The last section gives the conclusion of this study.

2. How Terror Activity May Lead to High Inflation

There are two channels through which the terror activity may contribute to change in inflation. From the supply-side, terror activity may lead to high inflation. The intuition behind this hypothesis is that generally after a terror related incident, protests, strikes, and closure of markets disrupts the supply of daily use items particularly the perishable items (food products which constitutes almost one-third of the overall consumer price index). The government spending also contributes to high inflation. The rise in terror activity forces the government to spend more on defence expenditures and for the law enforcement agencies. Expenditure on defence has increased significantly during the last decades in Pakistan. Similarly, health expenditures also witnessed a surge particularly after 9/11. Compensation to victims also ballooned government expenditures during the period under review. The rise in these expenditures had contributed to higher fiscal deficits. The government has relied heavily on direct borrowing from the central bank during most of the period under review. This deficit monetization (direct borrowing from the central bank) may also have triggered inflation in Pakistan. The changes in the monetization of government debt have a strong impact on domestic prices.

From the demand side channel, the demand for commodities such as furniture, household equipment, vehicles, and health insurances etc. are likely to rise in proportion with the terror related incidents. The house prices particularly in those areas which are relatively immune to terror activity may go up due to higher demand. However, in the case of Pakistan, no specific area is unaffected by terrorism during the last two decades. Another important component of CPI is utility bills. Utility bills are regulated and administrated by the government; hence they are likely to remain unchanged.

The relationship between terror activity and inflation is likely to be positive and a one-way relationship is expected i.e., terror activity has an impact of inflation. Except for few incidents, the responsibility of terror activity in Pakistan is claimed by global terrorist organizations such as the Tehrik-e-Taliban Pakistan (TTP), Al-Qaeda and banned extremist organizations such as Lashkar-e-Jhangvi and Sipah Sahaba.¹ These organizations are largely based on their extreme ideologies. Hence the hypothesis that worsening economic conditions

¹ Source: South Asia Terrorism Portal. www.satp.org.

lead to terror activity is assumed not to be true for Pakistan. A reverse causality check is also performed to test this hypothesis.

3. Estimation Strategy

The Autoregressive Distributed Lag (ARDL) is a widely used modelling framework to estimate one-to-one relationship between the variables of interest. In this methodology, the dependent variable is a function of its lagged values and the current and lagged values of the explanatory variables. The advantage of an ARDL model is that it can accommodate several lag structures. Importantly, this technique provides estimates of short-run and long-run cointegrating relationships even if the variables are not integrated of the same order. However, unit root testing is required to ascertain that no variable is integrated of order 2.

The basic ARDL (p,q₁) model for the estimation of long run relationship between inflation rate and terror activity in this study is as follows:

$$Inf_t = \alpha + \beta_0 TI_t + \beta_1 TI_{t-1} + \dots + \beta_{q_1} TI_{t-q_1} + \theta_1 Inf_{t-1} + \dots + \theta_p Inf_{t-p} + \Upsilon z_t + \mu_t \quad (1)$$

Inf is the YoY inflation rate; TI is the YoY growth in Terror Index; z_t is set of L control variables, μ_t is the error term.

The compact format of (1) is:

$$Inf_t = \alpha + \sum_{i=1}^p \theta_i Inf_{t-i} + \sum_{i=0}^{q_1} \beta_i TI_{t-i} + \Upsilon z_t + \mu_t \quad (2)$$

The model (2) is autoregressive as the inflation rate is explained, in part by its own lagged values. The model contains a distributed lag component as the inflation rate is partly explained by lagged values of the explanatory variable.

To estimate the existence of a long-run relationship, the Bounds test of (Pesaran et al. 2001) is conducted to test the below hypothesis. The Bounds test involves comparing the values of *F*- and *t*-statistics to pairs of critical values. Within the bounds, the test is inconclusive. If the values are outside of these bounds, the test either conclusively rejects or does not reject the null hypothesis.

$$\Delta Inf_t = \alpha + \sum_{i=1}^{p-1} \gamma_i \Delta Inf_{t-i} + \sum_{i=0}^{q_1-1} \delta_i \Delta TI_{t-i} + \lambda_1 Inf_{t-1} + \lambda_2 TI_{t-1} + \varepsilon_t \quad (3)$$

In (3), ARDL short-run coefficients are γ_i δ_i; -λ₁ is the error correction coefficient (the speed-of-adjustment coefficient) and the long-run coefficient is -λ₂/ λ₁. The error correction coefficient shows the speed of adjustment of the inflation rate in response to the change in terror index.

Null Hypothesis: No long-term relationship between inflation rate and terror index.

$$H_0: \lambda_1 = \lambda_2 = 0$$

Alternative Hypothesis: Long-term relationship between inflation rate and terror index.

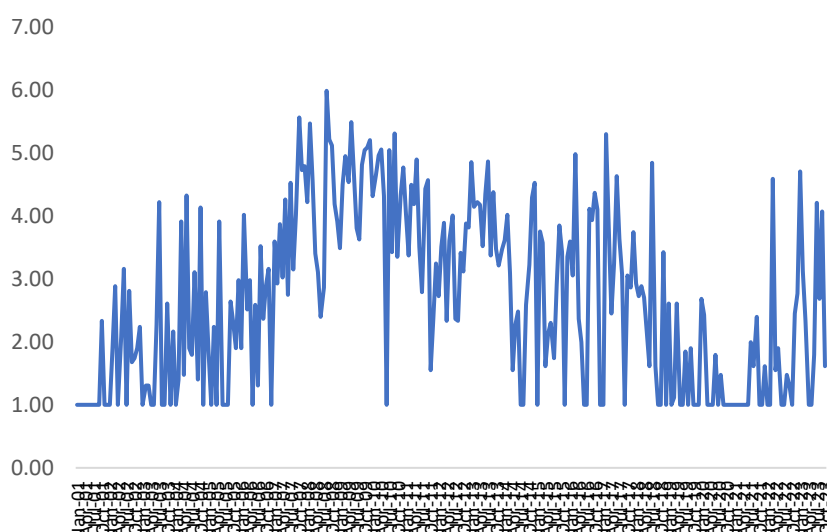
$$H_1: \text{At least one of } \lambda_1, \lambda_2 \neq 0$$

Null hypothesis would be rejected if the value of the F-Statistic is higher than the upper critical bound.

4. Data Description and Choice of Variables

- a. Inflation is the main dependent variable of interest in this study. Year on Year (YoY) growth rate of *Consumer Price Index (CPI)* of monthly frequency is used as a proxy for inflation. CPI is the main measure of price changes at the retail level and measures inflation in Pakistan with monthly frequency. Pakistan Bureau of Statistics (PBS) is responsible for collection, compilation, and presentation of retail/wholesale prices as well as computation of price indices. PBS collects data of prices both from rural and urban areas of Pakistan. 35 cities and 68 markets are covered for computation of CPI. In total, 356 commodities constitute the CPI. PBS staff located in 30 Regional/Field offices collect CPI data regularly on monthly basis. They personally visit shops, stores, and establishments according to a predetermined time schedule and collect the prices from three shops of the selected items from Urban centres and two shops from Rural centres. Prices are reported in schedules specifically developed for the purpose.² Source of this dataset is *Pakistan Bureau of Statistics*.
- b. Terror activity (terrorism) is the main explanatory variable. A particular *terror index (TI)* is developed to capture the impact of terror activity on inflation. For terror index, the logarithm of “e” plus the average of the following is used: (i) the number of fatal victims of terror action, (ii) the number of injured from terror action, and (iii) the number of terror action. A similar index was used for a case study of Israel (Eckstein and Tsiddon 2004). **Figure 4.1** shows the trend of Terror Index of Pakistan since the start of 2001. It is obvious from the trend that during the last two decades, the intensity and frequency of terror activity has not diminished much. Source of this dataset is *South Asia Terrorism Portal*.

Figure 1: Terror Index for Pakistan



² Source: Pakistan Bureau of Statistics; www.pbs.gov.pk.

- c. *Control variables*: Important determinants of inflation often mentioned in the literature and theory are used in this study for multipurpose. Control variables improve model fit and address endogeneity. Control variables are also important to capture additional dynamics and potential factors that might influence the long-term and short-term relationships between the variables.
- d. *Inflation inertia* itself is often considered an important determinant of inflation. One of the benefits of using the ARDL model is that it already contains the one period lagged rate of inflation. One period lagged rate of inflation is a good proxy for inflation inertia.
- e. To address the widely famous claim that ‘inflation is always a monetary phenomenon’, *YoY growth rate of money supply* is also added as one of the control variables. Money supply is one of the main determinants of inflation. Hence, adding this variable (YoY growth of money supply) addresses the potential issue of omitted variable bias. Source of this dataset is *State Bank of Pakistan*.
- f. *Deficit monetization* is also an important determinant of inflation. The government of Pakistan had relied heavily on direct borrowing from the central bank of Pakistan (SBP) to finance its deficit. Direct borrowing from the central bank implies ‘printing of new money’ that has a positive contribution in inflation. As the budget deficit number is available on quarterly basis only, the variable of government borrowing from the central bank is used instead in this study. Source of this dataset is *State Bank of Pakistan*.
- g. *Floods* also contribute to inflation (Mujahid, Malik and Tahir 2016). Pakistan witnessed massive floods (2010-11) and (2021-22) that destroyed the agricultural products and led to supply disruptions which added pressures on inflation. Hence a dummy variable for floods is also used as a control variable in this study. Source of this dataset is various versions of *Economic Survey of Pakistan, Ministry of Finance*.
- h. *Nominal Exchange rate* is also an important contributor to inflation. During the last two decades, different regimes of exchange rate management prevailed in Pakistan. Hence this variable (depreciation/appreciation of exchange rate on monthly basis) is also used as a control variable. Source of this dataset is *State Bank of Pakistan*.

5. Empirical Results

a. Pre-estimation tests:

Before estimating the main model, Augmented Dickey-Fuller (ADF) test is applied to check the presence of a unit root in the series of dependent, explanatory and control variables. The null hypothesis is that the variable contains a unit root, against the hypothesis that the variable is generated by a stationary process. All the series are I(1) i.e., integrated of order one and are cointegrated, which paves the way to estimate the ARDL.

b. Main empirical results:

Main results of equation (3) are provided in Table 1. The long-run coefficient of terror index is statistically significant and with a positive sign. A-100 basis points (bps) increase in the terror index leads to an increase of 8-bps in YoY inflation. The positive sign of this long-run coefficient implies that terror activity leads to high inflation. This is in line with intuition because terror activity is likely to disrupt the supply chain. Interestingly, the short-run coefficient has a negative sign which implies that in the short-run (within a

month), terror activity leads to a fall in inflation. This is perhaps due to fall in demand after a terror activity. A terror activity may compel consumers to stay at home and avoid unnecessary transactions. However, the size of the coefficient is negligible. The coefficient of the speed of adjustment indicates roughly 6 percent of the equilibrium is restored within a month. The coefficients of control variables are also in line with economic institution. The coefficient of exchange rate has a negative sign, which implies that an appreciation (depreciation) of exchange rate leads to fall (rise) in inflation. A rise in the money supply also leads to increase in inflation in line with the quantity theory of money (QTM). Interestingly the coefficient of government borrowing has a negative sign, which shows that deficit monetization has not contributed positively during the sample period in this study. The coefficient of floods is statistically significant.

A reverse causality test (using inflation as explanatory variable and terror activity as dependent variable) reveals that inflation does not lead to terror activity.

Table 1: Main Results

Dependent Variable	Explanatory Variable(s)	Coefficient	Standard error	p-value
	Terror Index			
	Short-run Coefficient	-0.005	0.001	0.001
	Long-run Coefficient	0.082	0.038	0.032
	Adjustment speed	-0.061	0.020	0.003
YoY Inflation Rate	Control variables			
	Nominal exchange rate	-0.043	0.016	0.009
	Floods	0.821	0.308	0.008
	Government borrowing	-0.00001	0.00009	0.867
	Money supply	0.070	0.039	0.078

Notes: Total number of observations 262; AIC to choose optimal lag selection. Manual selection of 13 lags provides similar results.

c. Post-estimation tests:

Several post-estimation tests are also conducted for the main model. For instance, structural-breaks testing, serial-correlation testing, heteroskedasticity testing and coefficient stability testing. Overall, results indicate no evidence of misspecification.

Breusch-Godfrey LM test for autocorrelation shows no serial correlation.

To check for coefficient stability, the cumulative sum (CUMSUM) test is also conducted. Breusch-Pagan test and the White's tests indicate that heteroscedasticity is not present, and the results of the main estimation strategy are valid.

Structural-breaks testing using the 'estat sbsingle' command is also done to test for a structural break in the speed-of-adjustment and the long-run coefficients. Results do not indicate any structural break.

6. Conclusion

Terrorism remains a persistent and intense issue for Pakistan since the events of 9/11 after Pakistan became a key ally of the US in the war against terrorism. Primary schools, shopping malls, airports, cricket stadium, police check-posts, hospital, army's head quarter, entertainment parks, shrines, praying areas, public rallies, airports, train stations have been attacked by the terrorist short after September 2001.

Apart from financial and human resource losses, this continuous and indiscriminate wave of terrorism has macroeconomic consequences for Pakistan. This study estimates the impact of terror activity on one of the most important macroeconomic variable 'inflation' using monthly data from January 2002 till October 2023. This estimation is done using ARDL model. Several important control variables are also added in the estimation strategy to improve the overall fit of the model and to address the problem of probable endogeneity. Results suggest that a rise in terror activity leads to high inflation. The coefficient of terror index is statistically significant.

This positive association between the terror index and inflation is expected because after a terrorist incident, supply of daily-use items is disrupted because of strikes, market closures and hurdles in transportation. In a weak price-regulating system, the chances of inflation rates going up increase. Terror activity also brings direct damage to items such as furniture and motor vehicles etc. The demand of these items likely goes up and may also contribute to inflation. Reverse causality test validates that terror activity is exogenous and high inflation rate does not lead to or promote terrorism.

References

- Abadie, Alberto, and Javier Gardeazabal. (2003). "The economic costs of conflict: a case study of the Basque Country." *American Economic Review* 113-132.
- Arbel, Yuval, Danny Ben-Shahar, Stuart Gabriel, and Yossef Tobol. (2010). "The local cost of terror: Effects of the second Palestinian Intifada on Jerusalem." *Regional Science and Urban Economics* 415-426.
- Besley, Tomothy, and Hannes Mueller. (2012). "Estimating the Peace Dividend: The Impact of Violence on House Prices in Northern Ireland." *The American Economic Review* 810-833.
- Eckstein, Zvi, and Daniel Tsiddon. (2004). "Macroeconomic consequences of terror: theory and the case of Israel." *Journal of Monetary Economics* 971-1002.
- Eldor, Rafi, and Rafi Melnick. (2004). "Financial markets and terrorism." *European Journal of Political Economy* 367-386.
- Gould, Eric D, and Guy Stecklov. 2009. "Terror and the Costs of Crime." *Journal of Public Economics* 1175-1188.
- Karatzas, George. (1993). "Government Deficits, Monetization, International Reserve Flows, and Inflation in Selected African Countries." *Economia Internazionale / International Economics* 201-224.
- Khan, Safdar Ullah , and Omar Farooq Saqib. (2011). "Political instability and inflation in Pakistan." *Journal of Asian Economics* 540-549.
- Kripfganz, Sebastian, and Daniel C. Schneider. n.d. "ardl: Estimating autoregressive distributed lag and equilibrium correction models." *In Proceedings of the 2018 London Stata Conference*.
- MOF. (2018). *Impact of War in Afghanistan and Ensuing Terrorism on Pakistan's Economy*. Islamabad: Pakistan Economic Survey 2017-18, Ministry of Finance.
- Mujahid, Noreen, Nargis Malik, and Sheeba Tahir. (2016). "The Macroeconomics of Flood: A Case Study of Pakistan." *Journal of Environment and Earth Science* 67-80.
- Pesaran, M. Hashem , Yongcheol Shin, and Richard J. Smith. (2001). "Bounds testing approaches to the analysis of level relationships." *Journal of Applied Econometrics* 289-326.
- Shahbaz, Muhammad. (2013). "Linkages between inflation, economic growth and terrorism in Pakistan." *Economic Modelling* 495-506.
- Tellis, Ashley J. (2008). *Pakistan and the War on Terror Conflicted Goals, Compromised Performance*. Washington DC: Carnegie Endowment for International Peace.

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What You Read Is What You Learn: Following Different Types of Route Instructions

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Abstract

This exploratory work evaluated the type of route instruction participants find helpful during a wayfinding task in different real-world environments. Many people today depend on navigation applications to search for an unfamiliar destination. However, some people may struggle when following only instructions (without the map) that contain precise information such as street names, distances, and cardinal directions like what is indicated in navigation apps, unlike human-generated instructions with more landmarks. This study conducted a between-subject experiment design on adult participants unfamiliar with the study areas' routes. They were assessed for familiarity and randomly assigned to each site (a university campus and a park) with different spatial layouts. They received two types of instructions for a pre-defined route. One group first received the human-generated instructions and changed to machine-generated instructions in the second half of the route. After the wayfinding task, they were asked to draw a sketch map to assess their acquired knowledge. The results showed more deviations and stops when following machine-generated instructions, specifically in the park with a circular layout. The sketch maps showed what they learned along the route and revealed survey and route-like characteristics. The study suggests that the type of route instructions affects the wayfinding performance of people and what they learn in an unfamiliar environment. The paper contributes to studies that restructure machine-generated route instructions into nature-like instructions for humans to follow easily.

Keywords: Spatial Learning, Route Instructions, Sketch Maps

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Introduction

Can you recall the time you got lost in a new area? Navigating one's way in an unfamiliar environment can be challenging. Some may find it difficult or easy. People use different strategies to navigate unfamiliar areas. Traditional paper maps, instructions from other people, and sketch maps are some common tools used during wayfinding. Nowadays, most people use web mapping platforms like Google Maps, Here Maps, and OpenStreetMap, to name a few, before heading to their destination and providing route instructions from the origin. These applications have been widely used as it is advantageous when traveling to an unfamiliar area changing how one interacts with the environment. Oftentimes, what happens is that the user becomes too focused on passively following the navigational system without paying much attention to the environment (Schwering et al, 2017). Hence, people seldom acquire survey knowledge which refers to an overall view of the environment. A person may acquire survey knowledge or route knowledge during wayfinding (Golledge et al, 1995). Route knowledge is based on the ordering of paths or features based on the travel route; and survey knowledge is considered a 'two-dimensional' knowledge layout of a place -where a person can create spatial relations of spatial elements even if there was no direct contact with the place. Siegel and White (1975) claim that people learn first landmarks. Afterward, they learn the path and the route. Studies have shown that using these navigation tools leads to differences in learning the environment being traveled (Münzer et al, 2012; Krukar et al, 2020). Many people are becoming dependent on using navigational devices or smartphones to find their way in an unfamiliar environment. However, too much dependency on technology may affect acquired knowledge of the environment especially when one blindly follows the system.

What if there is no map available and users are asked to follow only the textual route instructions? Some people may find it difficult to follow only instructions that contain precise information such as street names, distances, and cardinal directions as included in navigation systems, unlike human-generated instructions that contain more landmarks. Lovelace et al. (1999) investigated what to consider when making good route instructions for both unfamiliar and familiar environments. The authors emphasized that the quality of information is relevant for effective wayfinding. The quality of route directions could be assessed by the number of elements included in the instructions, people's rating of the directions, and knowing how well it has facilitated wayfinding task completion.

Ishikawa and Kiyomoto (2008) evaluated participants' wayfinding performance following route instructions in a shifting reference frame – absolute (e.g. go north) and relative (e.g. turn left; turn right). One group started with absolute instructions and then shifted to relative instructions in the second half of the route. The study found that participants had more errors when instructions shifted to absolute instructions. A similar procedure is employed in this research, assessing route instructions – human-generated and machine-generated. The human-generated instructions include landmarks and relative instructions but with modification by adding one or two street names; whereas the machine-generated instructions are instructions taken from Google Maps.

Meiliger and Knauff (2008) studied how people find their way in an unfamiliar environment by comparing verbal route instructions and schematic maps. The authors looked at both how participants acquired survey and route knowledge. They acknowledged the importance of maps and verbal instructions or language in wayfinding. Anacta et al (2014) evaluated both verbal instructions and sketch maps following the study design of Ishikawa and Kiyomoto

(2008). The results demonstrated that not only landmarks at decision points are often included but also those situated along the route as shown in their sketch maps. Participants tend to draw streets and landmarks not included in the textual instructions. In wayfinding, some studies show that men are more into orientation strategy (which refers to cardinal directions) while women use route strategy referring mostly to landmarks. Scholl et al (2000) found in their study that men prefer cardinal direction for orientation in an unfamiliar environment. Females are better at following spatial navigation when landmarks are provided (Kim et al, 2007). It is in dynamic navigation following Euclidean instructions that men outperformed women. Women use topographical rather than Euclidean navigational strategies (Silverman and Choi, 2006). Gender differences will not be part of the analysis in this study but could be worth investigating in the future, whether a gap is still evident.

This study is influenced by the work of Krukar et al (2020), which tested different types of instructions (machine-generated and orientation-based instruction). The orientation wayfinding instructions provide someone with an idea of the spatial layout of the environment which eventually helps one build survey knowledge or an overview of the environment travelled. This differs from machine-generated instructions, which mostly provide turn-by-turn instructions including cardinal directions and exact distances. This type of instruction leads mostly to acquiring route knowledge. In the current study, the wayfinding task will be conducted in a real environment as a follow-up research which was done through an online activity (Anacta, 2024). Here, the participants will also be asked to draw the route from memory after the activity to assess the sketch map characteristics.

This research will benefit all sectors of the community because people experience both giving and following wayfinding instructions. The results will provide insights into the differences in how people acquire knowledge in varying environments during wayfinding and a way of finding a better way of communicating route instructions such that the person does not only see the destination but also learns something about the environment.

The research questions (RQ) addressed in this study are:

RQ1: What do people learn when they follow certain types of instruction in a real environment?

RQ2: What characteristics do humans' sketch maps reveal on how they visually structure the described route during wayfinding?

Method

Participants

There were 12 participants (6 males, 6 females) aged 18 years and above who took part in the experiment ($M=23.42$ yrs, $SD=1.56$). They are not familiar with the route in both study areas. A questionnaire was given to assess the level of familiarity.

The participants were recruited via an advertisement posted on social media. Then snowball sampling was used to gather more participants who would meet the criteria. Only those who have not been or do not frequent most places in the study sites were contacted to participate. They received remuneration for participating.

Study Area

The study areas are the University of the Philippines Diliman (UPD) campus and the Quezon Memorial Circle (QMC). Both are located in Quezon City, Philippines. The two sites were selected because they have different street layout.

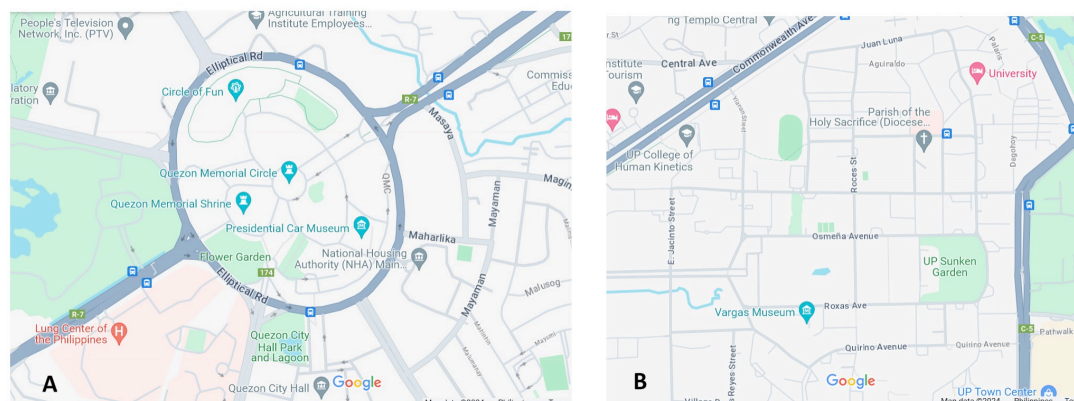


Figure 1: Study Areas (A: QMC and B: UPD)

Procedure

Before conducting the wayfinding task, the experimenter provided the participants with the activity instructions and asked them to sign the informed consent form. They were assigned randomly to the two study sites. The activity was done individually. Then the experimenter followed the participant without conversation. Each participant received a route instruction that changed from one type to another type of instruction (e.g. Machine-generated to Human-generated).

An example of machine-generated instructions:

1. Head southeast on QMC toward Drop Off Ln. Go for 150 m (2 min)
2. Turn right at Drop Off Ln. Go for 37 m (1 min)

An example of human-generated instructions:

1. From the entrance gate, go straight into the park until you reach the end of the street and turn right. You go past QCX on the left and garden stalls on the right. You will cross an intersection.
2. Go around the roundabout of Liwasang Aurora fountain. Go past Pedal and Paddle and the Liwasang Aurora Amphitheater on the right. Turn right at the second street.

After the wayfinding activity, participants are asked to draw a sketch map for a maximum of 15 minutes.

For the wayfinding performance, the number of stops and deviations were counted. If a participant made a stop for 10 seconds or longer, then this is considered a stop. If they deviated for 50 meters, the experimenter asked the participant to go back to the last correct route. In analyzing sketch maps characteristics, the criteria for maps showing route-likeness and survey-likeness developed by Krukar et al, (2020) and applied in a different setting by Anacta (2024) are employed in the analysis.

Results and Discussion

For the wayfinding measures, there were 21 stops and 47 deviations. Although, not significant, male participants incurred more wayfinding measures (Stops: 10 female, 11 male; Deviations: 23 female, 24 male). This preliminary result is not conclusive and more participants are needed. The average time spent was around 17 minutes for both types of instruction. Similar to the study of Ishikawa and Kiyomoto (2008), there were more deviations and stops when following machine-generated instructions. Although there is not enough difference here, human-generated instructions also appeared confusing for some participants. Some mentioned that they would have difficulty finding a specific landmark when new in an area because they do not know what it looks like. This explains the number of stops and deviations participants incurred during the wayfinding activity. For the machine-generated instructions, estimating distances was difficult for many participants.

About the type of environment, there were more deviations and stops at the QMC (Stops: 16; Deviations: 29) than at the UPD campus (Stops: 5; Deviations: 18). It shows that the circular type of environment can be more challenging during wayfinding than the grid-like environment. This could mean that when giving instructions, one would consider the type of environment.

The sketch maps showed both route-likeness (56.94%) and survey-likeness (45.83%), similar to the studies of Krukar et al (2020) and Anacta (2024). Even if instructions do not include more global information (i.e. distant landmarks), participants tend to include some features they see off the route.

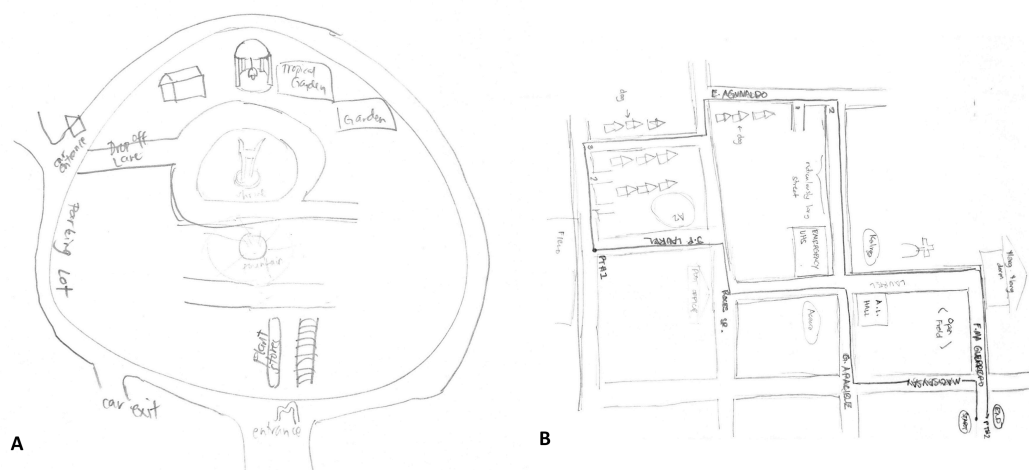


Figure 2: Example of Sketch Maps (A:QMC and B:UPD)

Conclusion

The findings of the study suggest that most participants prefer human-generated route instructions. However, some would prefer machine-generated instructions if it is their first time driving in the area. The type of instructions affects wayfinding performance as shown in some errors made. This also affects what people learn through sketch maps. Some may recall features included in the instructions or seen during wayfinding. Human- and machine-

generated instructions result in both survey-like and route-like maps (even if some instructions do not contain global information).

Some limitations of this work include the number of participants and sketch map analysis that can further explain what people learn during wayfinding. In the future, it would be helpful to apply the same study design using eye-tracking as well as navigation tools in augmented reality and virtual reality. The paper contributes to studies that structure nature-like instructions from machine-generated route instructions for humans to follow easily.

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References

- Anacta, V. J. A., Wang, J., & Schwering, A. (2014). Routes to Remember: Comparing Verbal Instructions and Sketch Maps. *Connecting a Digital Europe Through Location and Place*, 311.
- Anacta, V. J. A. (2024). Spatial learning using Google Streetview in an online wayfinding task. *Research in Learning Technology*, 32.
- Golledge, R. G., Dougherty, V., & Bell, S. (1995). Acquiring Spatial Knowledge: Survey versus Route-Based Knowledge in Unfamiliar Environments. *Annals of the Association of American Geographers*, 85. No. 1, 134-158.
- Ishikawa, T & Kiyomoto, M (2008). Turn to the left or to the West: verbal navigational directions in relative and absolute frames of reference. In: 5th international conference on GIScience, Park City, UT, USA, Sept 2008. Lecture notes in computer science, vol 5266. Springer, Heidelberg, pp 119–132.
- Kim, B. Lee, S., & Lee, J. (2007). *Gender Differences in Spatial Navigation*. World Academy of Science, Engineering and Technology 31.
- Krukar, J., Anacta, V. J., & Schwering, A. (2020). The effect of orientation instructions on the recall and reuse of route and survey elements in wayfinding descriptions. *Journal of environmental psychology*, 68, 101407.
- Lovelace, K. L., Hegarty, M., & Montello, D. R. (1999). Elements of Good Route Directions in Familiar and Unfamiliar Environments. *COSIT '99 Proceedings of the International Conference on Spatial Information Theory: Cognitive and Computational Foundations of Geographic Information Science*, (S. 65-82).
- Meiliger, T., & Knauff, M. (2008). Ask for Directions or Use a Map: A Field Experiment on Spatial Orientation and Wayfinding in an Urban Environment. *Spatial Science*, 53, Number 2, 13-23.
- Münzer, S., Zimmer, H. D., & Baus, J. (2012). Navigation assistance: a trade-off between wayfinding support and configural learning support. *J Exp Psychol Appl*, Vol. 18, Issue No. 1, 18-37. <https://doi.org/10.1080/03098265.2010.490907>
- Scholl, M.J, Acacio, J.C., Makar, R.O., & Leon, C. (2000). *The Relation of Sex and Sense of Direction to Spatial Orientation in an unfamiliar environment*. Journal of Environmental Psychology. 20. Pp. 17-28.
- Schwering, A., Krukar, J., Li, R., Anacta, V. J., & Fuest, S. (2017). Wayfinding Through Orientation. *Spatial Cognition & Computation*, 17 Issue 4, 273-303.
- Siegel, A. W., & White, S. (1975). The development of spatial representations of large-scale environments. *Advances in Child Development and Behavior*, 10, 9-55.

Silverman, I. & Choi, J. (2006). *Non-Euclidean Navigational Strategies of Women: Compensatory Response or Evolved Dimorphism?* *Evolutionary Psychology*. 4. 75-84.

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***Stress Among College Students:
How Social Capital, Locus of Control, and Isolation Shape College Students' Well-being***

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Abstract

University life represents one of the most thrilling chapters in one's personal and professional life but also introduces a host of difficulties with the potential to intensify stress. When unattended, stress can worsen and impede academic accomplishments, emotional health, and social well-being. *Objectives:* This study aims to explore the relationships among stress, feelings of isolation, social capital, and locus of control among students at a midwestern U.S. university. *Methods:* We used an online survey method for data collection, using Qualtrics software. The survey was distributed through the deans in several schools/colleges, yielding 433 responses. Results were analyzed with descriptive statistics and regression analysis. *Results:* In addition to having higher social capital in general, undergraduate students indicated higher routine contact with their social network and a greater ability to rely on their social network for help than graduate students. Undergraduate students also indicated having a higher internal locus of control than graduate students. Finally, female students indicated higher levels of stress but a higher reliability on their social network than male students. *Conclusions:* The implications of this study are relevant for stakeholders at universities that are responsible for student care, services, and engagement. We recommend further qualitative study on the context of stress and replicating the survey at other universities and with faculty and staff.

Keywords: College Students, Stress, Social Capital, Locus of Control, Isolation, Online Survey

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Introduction

University life represents one of the most thrilling and enduring chapters in a young adult's journey. Nevertheless, it also introduces them to a host of hurdles and difficulties. These challenges illuminate the essence of a stimulating and ever-evolving college experience. Consequently, they have the potential to intensify stress, which, when unattended, can worsen and impede their academic accomplishments, emotional health, and social harmony.

Statistics reveal a disconcerting reality: students experience genuine stress, which, in certain instances, may be comparable to the stress faced by adults. The academic and psychological demands of education often grow in tandem with a student's progression (Reddy et al., 2018). Moreover, external influences such as family dynamics, financial pressures, social relationships, and mental health can either serve as sources of support or further distractions from academic pursuits (Lian, 2018). According to findings from a 2019 ACHA-National College Health Assessment II national research survey, the majority of students cited stress and anxiety as the primary factors negatively impacting their academic performance (ACHA, 2019).

Social support provided by the university, family, friends, and mentors has a significant impact on a student's academic performance and achievement. Similarly, emotional, academic, and financial assistance play crucial roles in determining the success of college students. The college experience can be demanding and can reshape a student's life. Therefore, it is essential to have the presence and support of family and friends while navigating through college (Trockel et al., 2000). Additionally, Shaikh et al. (2004) highlight that issues related to relationships, both within the family and at college, often contribute to stress among students. According to Greenberg (1996), the process of making new friends is a factor that can induce stress in college students. Furthermore, it is commonly observed that forming and cultivating new friendships can be a stressful aspect closely associated with college life.

Research conducted by Dennis et al. (2005) and Nicpon et al. (2006) unequivocally establishes that students with limited social engagement are inclined to experience greater isolation, achieve lower grades, and face a heightened risk of dropping out of college. Academic performance and overall adjustment tend to decline for students who grapple with loneliness and social inactivity during their college years, preventing them from tapping into the available social support and resources on campus.

This study explored how isolation and social capital impacted stress levels among college students. Isolation or feeling disconnected from society can increase stress. At the same time, social capital, including support and networks from relationships, may also contribute to student stress but may also have a protective effect against stress. The study aims to investigate the degree of isolation experienced by students, the extent of their social capital, support systems and resources. This study investigates the correlation among isolation and social network, and stress.

Methods

Data Collection

This research used quantitative survey methods with a Qualtrics online survey to better understand the relationships among major factors. The aim is to find out whether more isolation leads to higher stress levels, and how having a strong social support affects stress. After receiving an approval from the University's Institutional Review Board, an online survey link was disseminated to both graduate and undergraduate students at a mid-sized private university in the Midwest in the United States via forwarded message from each college/school.

Variables

All variables were measured by 5-point Likert scales, and means of each composite scale were created, making the range of all the variables five.

Stress was measured in different domains: environmental, personal, and educational (Garbee et al., 1980; Harris et al., 2017) with a reliability of 0.821. Locus of Control (Berrenberg, 1987) was separated into internal and external locus of control for a data analysis. The reliabilities were 0.709 (external) and 0.589 (internal). Social Capital was created from existing scales (Wang et al., 2014; Chen et al., 2015) with a reliability of 0.870. Isolation (Russell, 1996) yielded a reliability of 0.800.

Results

Sample Characteristics

In the total sample size of 433, 70.3% were female students, and 61.3% were undergraduate students. Further, 60.3% of the sample were employed either part-time or full-time.

Results of Regression Analysis

The study found that undergraduate students, in comparison to graduate students, showed higher social capital, more routine contact with their social network, higher ability to reply on their social network, and higher internal locus of control (all p-values were <0.05). While female students indicated more stress than male students, they showed higher reliability on their social network for help (p<0.05).

As expected, those with higher social capital showed less stress, those who scored higher in isolation showed higher stress, and primary family caretakers showed higher stress than those who did not have family obligations. Further, those who had high external locus were more likely to show high level of stress.

Conclusions

The survey was carried out after the fall break, thus students' stress level might have been lower than at other times during the semester. The small sample size may be due to a lack of follow-up e-mail. Nevertheless, the study found that isolation, social capital, and locus of control impacted stress among university students and that the graduate students reported

greater isolation and less social capital than undergraduate students. The latter finding is valuable because there is a void in the literature regarding graduate students' stress and social support.

Acknowledgement

We are thankful to the participants for giving us their time. We are also thankful to some colleagues who offered their time to validate the scales which were used for this study. We also appreciate several deans' time to forward the survey link to their students.

References

- American College Health Association (ACHA). (2019). American College Health Association-National College Health Assessment II: Reference group executive summary spring 2019. https://www.acha.org/documents/ncha/NCHAII_SPRING_2019_US_REFERENCE_GROUP_EXECUTIVE_SUMMARY.pdf
- Dennis, J. M., Phinney, J. S., & Chuateco, L. I. (2005). The role of motivation, parental support, and peer support in the academic success of ethnic minority first-generation college students. *Journal of College Student Development*, 46(3), 223-236.
- Greenberg, S. R. (1996). The effects of social support on the relationship between stressful life events and depressive symptoms in college students. *Journal of Social and Clinical Psychology*, 15(3), 296-313.
- Lian, R. (2018). Stress, happiness, and well-being of university students: An empirical study. *Higher Education Research & Development*, 37(6), 1164-1177.
- Nicpon, M. F., Huser, L., Blanks, E. H., Sollenberger, S., Drogmeier, L., Hobson, B., & Huang, C. (2006). The relationship of loneliness and social support with college freshmen's academic performance and persistence. *Journal of College Student Retention: Research, Theory & Practice*, 8(3), 345-358.
- Reddy, R., Rhodes, J. E., & Mulhall, P. (2018). The influence of teacher support on student adjustment in the middle school years: A latent growth curve study. *Developmental Psychology*, 54(7), 1292-1303.
- Shaikh, B. T., Kahloon, A., Kazmi, M., Khalid, H., Nawaz, K., Khan, N., & Khan, S. (2004). Students, stress and coping strategies: A case of Pakistani medical school. *Education for Health*, 17(3), 346-353.
- Trockel, M., Barnes, M. D., & Egget, D. L. (2000). Health-related variables and academic performance among first-year college students: Implications for sleep and other behaviors. *Journal of American College Health*, 49(3), 125-131.

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Exploring the Path to Social Sustainability From Liyun Datong Pian of Liji

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Abstract

The "Liyun Datong Pian," also known as "Great Unity," is the initial section of the "Liyun" chapter in Liji (the Book of Rites), a renowned Confucian classic documenting the ceremonial practices and musical systems in China during the Zhou and Han dynasties. The classic conveys Confucianism's desire for a society characterized by profound harmony in governance, which has had a substantial influence on subsequent views and goals of social advancement over the past two thousand years. Besides Sun Yat-sen's extensive works on this aspect, Zen Master Hunyuan, the founder of Weixin Shengjiao, a contemporary religion in Taiwan, proposed relevant discussions with the aim of fostering societal stability and harmony. This study examines the "Book of Rites—Liyun Datong Pian" along with Sun Yat-sen's doctrines and Zen Master Hunyuan's discussions. It analyzes the implications of this ancient text in terms of public health, public policy, and social welfare and explores its relevance to achieving social sustainability. The findings of this study are expected to serve as a concrete reference for the sustainable development of global societies.

Keywords: Liyun Datong Pian, Social Sustainability, Population Aging

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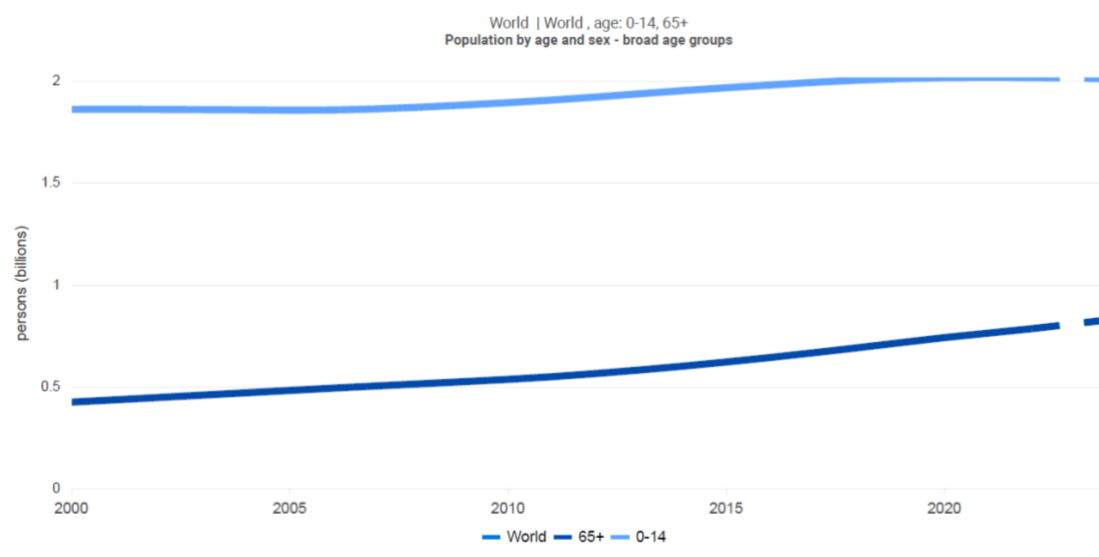
Introduction

This paper explores the global significance of population aging, emphasizing that effectively addressing this issue is crucial for the sustainable development of society. It elucidates the relationship between Datong (Great Unity) thoughts and the elderly population, particularly focusing on how this philosophy can support the elderly, encourage the elderly to grow internally, and achieve better life circumstances.

Furthermore, the paper examines public policies for the elderly, proposing that the application of Datong principles can offer effective strategies to meet the challenges posed by an aging population, thereby enhancing social sustainability amid demographic shifts.

Population Aging: An Important Global Issue

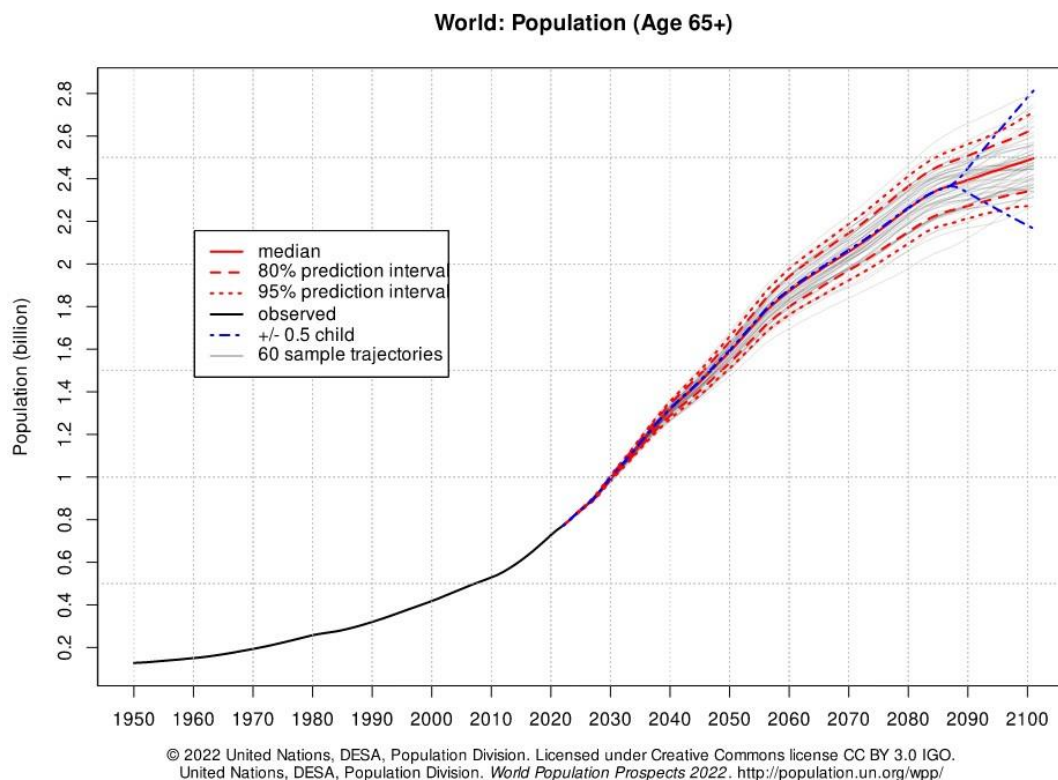
From the United Nations' data, the population aged over 65 is increasing at a faster rate than the population aged under 14 (Figure 1).



Notes: United Nations, Department of Economic and Social Affairs, Population Division (2022). *World Population Prospects: The 2022 Revision*. Retrieved from <https://population.un.org/dataportal/data/indicators/70/locations/900/start/2000/end/2024/line/linetimeplotcompare?df=28dfe92b-a52e-4394-924a-d0e27bbd437d>

Figure 1: World Population Keeps Aging

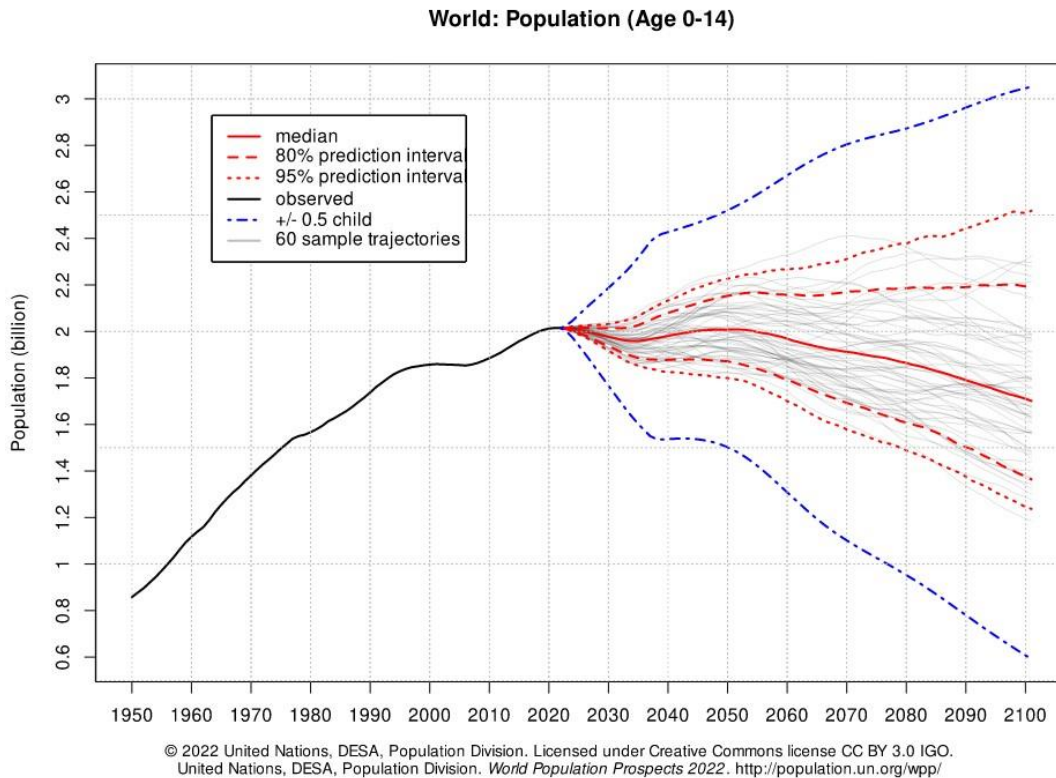
Particularly in the coming decades, the United Nations data projects that the median population of those aged 65 and older will grow sharply for the rest of the century (Figure 2).



Notes: United Nations, Population Division (2022). *World Population Prospects 2022*. Retrieved from <https://population.un.org/wpp/Graphs/Probabilistic/POP/65plus/900>

Figure 2: World Population of the Aged to Climb Sharply

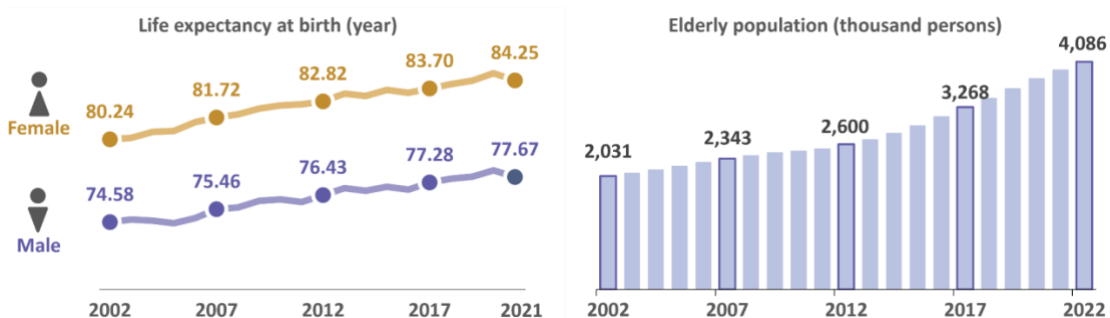
Furthermore, in the coming decades, the United Nations data also projects that the median population of those under 14 will decline (Figure 3).



Notes: United Nations, Population Division (2022). *World Population Prospects 2022*. Retrieved from <https://population.un.org/wpp/Graphs/Probabilistic/POP/0-14/900>

Figure 3: World Population of Children Expects to Decline

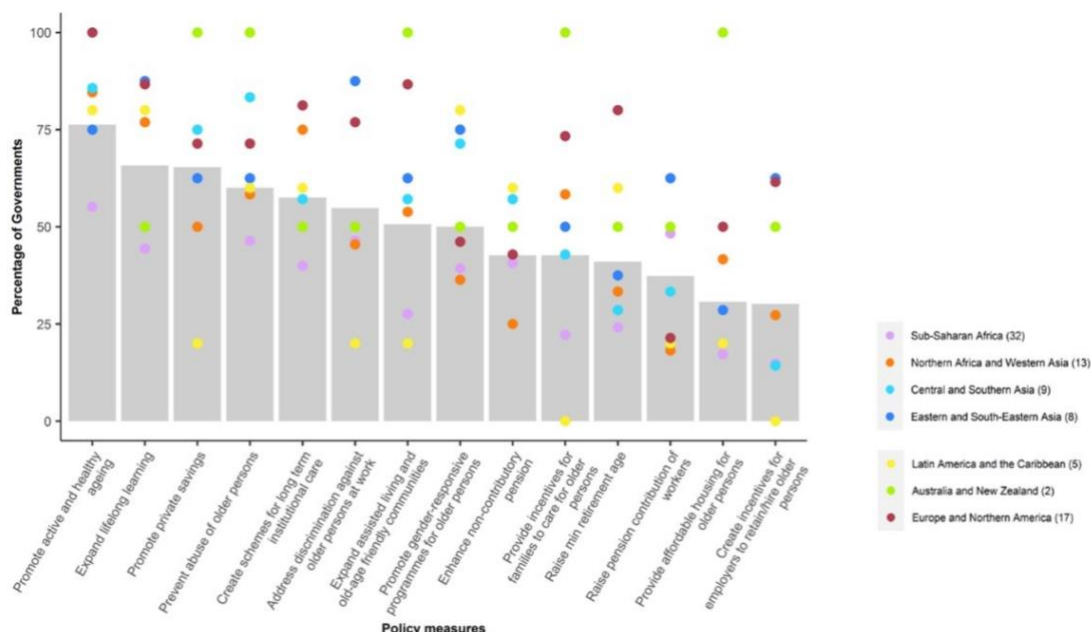
In Taiwan, the situation is even more intense. Taiwan became an aged society in 2018, with over 14% of its population being elderly. It is expected to turn into a super-aged society in 2025, with the elderly population surpassing 20% (Figure 4).



Notes: National Development Council. *Population Aging*. Retrieved from https://www.ndc.gov.tw/en/Content_List.aspx?n=85E9B2CDF4406753

Figure 4: Rising Life Expectancy in Taiwan

To cope with the significant phenomenon of population aging, governments around the globe have implemented various policy measures (Figure 5).



Notes: Population Division of the United Nations Department of Economic and Social Affairs (2020). *Government policies to address population ageing, 2020 (1)*, Retrieved from https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesa_pd_2020_pf_government_policies_population_ageing.pdf

Figure 5: Specific Ageing-related Policy Measures of Governments -during the five years prior to data collection (roughly 2014-2018)

According to the report "Government Policies to Address Population Ageing" by the Population Division of the United Nations Department of Economic and Social Affairs in 2020, the three most commonly adopted policy measures on population ageing are:

- Promotion of active and healthy aging (76%)
- Expansion of lifelong learning (66%)
- Encouragement of private savings (65%)

Definition of Health

Among the policy measures most commonly adopted by governments to address population ageing, the promotion of active and healthy aging is the most prevalent. The World Health Organization (WHO) defines health as follows:

"Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." (WHO Constitution, 1948)

This implies that the health of the elderly should also encompass multiple dimensions.

Sustainable Development Goals

Additionally, in 2015, the United Nations introduced 17 Sustainable Development Goals (SDGs), as illustrated below (Figure 6):



Notes: United Nations Department of Economic and Social Affairs Sustainable Development (2015). *17 Sustainable Development Goals (SDGs)*. Retrieved from <https://www.un.org/sustainabledevelopment/news/communications-material/>

Figure 6: 17 Sustainable Development Goals (SDGs) - THE 17 GOALS (United Nations Department of Economic and Social Affairs Sustainable Development, 2015)

Among the 17 Sustainable Development Goals (United Nations Department of Economic and Social Affairs Sustainable Development, 2015) the authors suggest that the following are most pertinent to the issues discussed in this paper:

- Goal 3: Ensure healthy lives and promote well-being for all ages
- Goal 4: Ensure quality education and promote lifelong learning
- Goal 8: Promote sustained, inclusive, and productive employment for all
- Goal 11: Make cities and human settlements inclusive, safe, resilient, and sustainable
- Goal 16: Promote peaceful and inclusive societies and build effective, accountable institutions
- Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

Furthermore, in the United Nations 2030 Agenda for Sustainable Development, prosperity is defined as ensuring that human economic, social, and technological progress can coexist harmoniously with nature.

From the Prosperity aspect of the UN 2030 Agenda for Sustainable Development:

"We are determined to ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social, and technological progress occurs in harmony with nature." (Transforming our world: the 2030 Agenda for Sustainable Development: Prosperity, United Nations, Department of Economic and Social Affairs Sustainable Development)

Social Sustainability

The term sustainability was first used in 1713 by Carl von Carlowitz in his work about the long-term use and preservation of raw material in the field of forestry. Currently, the most widespread concept of sustainability (Colanto-nio & Dixon, 2010; Hogberg, 2015; Pareja-

Eastaway, 2012) originates from the United Nations report *Our Common Future*, in which sustainable development is defined as “development that meets the needs of the present without compromising the ability of future generations to meet their needs” (UN World Commission on Environment and Development, 1987, Chap. 2). Sustainability development concerns economic, environmental and social goals, which can be understood as the three pillars (dimensions) of sustainability (Purvis et. Al., 2019; Azapagic et. al., 2016). These dimensions should not be considered in isolation from one another (Hinz, 2014). Compared to the economic and environmental dimensions, the social dimension is the least developed, but in recent years, an increasing number of studies have been discussing the term social sustainability (Lee & Jung, 2019).

Social sustainability can be referred to as the well-being of humans and society and the safety of consumers (Govindan et. al., 2021; Chiu, 2003); the provision of a viable long-term urban setting for cultural development, social integration, human interaction and communication (Dempsey et. al., 2011; Polese & Stren, 2000); or by recognizing every person’s right to belong to her or his community and participate as a valued member of it (Castillo, Moobela, Price, & Marthur, 2007; AISuwaidi et. al., 2018; Huq et. al., 2014). However, to find the ways constructing a sustainable community will be very important. According to McKenzie (2004), social sustainability is a process resulting in life-enhancing condition within community. Therefore, Bristol Accord (2005) defined the sustainable communities as “Place where people want to live and work, now and in the future. They meet the diverse needs of existing and future residents, are sensitive to their environment, and contribute to a high quality of life. They are safe and inclusive, well planned, built and run, and offer equality of opportunity and good service for all” (p. 12).

Sustaining With Population Aging

Based on the above analysis and observations of social phenomena, the authors propose that effectively addressing population aging is crucial for achieving a sustainable society. When the elderly can maintain their quality of life and continue to grow, it contributes to a rejuvenation effect, allowing society as a whole to recirculate and attain a sustainable state (Figure 7).

When the elderly maintain a high quality of life and continue to grow, where the overall vitality and dynamism of a society are enhanced. This process leads to a more vibrant and sustainable society, as the aging population contributes positively to social, economic, and cultural dimensions, effectively counteracting the typical decline associated with aging demographics.

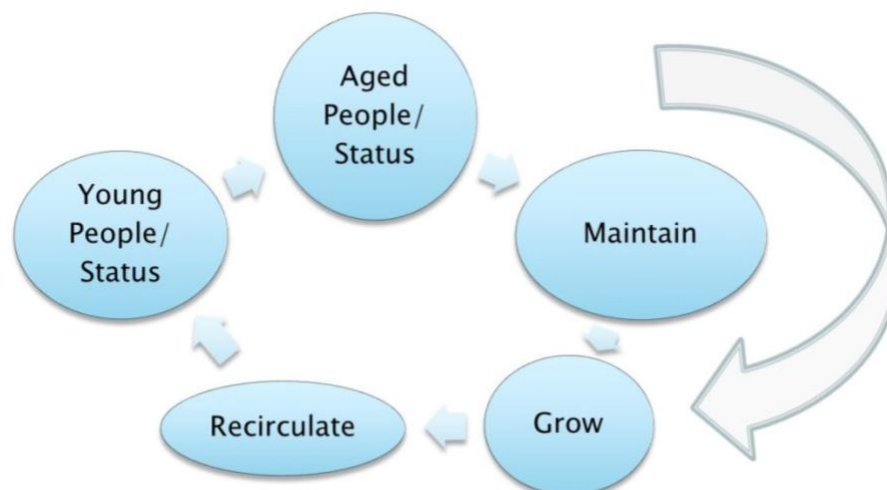


Figure 7: Society Recirculates and Attains a Sustainable State

The authors of this research examine various approaches to addressing the issue of aging population, ranging from the Confucian concept of harmony and unity in the "Li Yun Da Tong Pian" chapter of the Book of Rites nearly two thousand years ago, to the thoughts of Sun Yat-Sen from about a century ago, and more recently, the ideas of Zen master Hunyuan in Taiwan. This literary and refined essay explores potential solutions to the challenges posed by population aging.

Confucian Classic in Liyun Chapter in Liji (The Book of Rites)

The Datong Pian section of Liyun states: "A competent provision was secured for the aged till their death.". This can be interpreted as advocating for the provision of care and security for the elderly until the end of their lives.

The full passage reads: *"A competent provision was secured for the aged till their death, employment for the able-bodied, and the means of growing up for the young."* (Liyun Datong Pian, the initial section of the "Liyun" chapter in the Book of Rites)

In the original text: 《禮記·禮運》：“使老有所終，壯有所用，幼有所長，矜寡孤獨廢疾者，皆有所養。”

The Liyun chapter in the Book of Rites, originating from the Zhou and Han dynasties in China about 2,000 years ago, was written during a time of continuous warfare and ineffective governance. In this turbulent era, people longed for stability and development. Liyun envisioned a world free from disorder, reflecting Confucianism's deep desire for a harmonious society. This ideal state of living remains a profound aspiration in contemporary society.

Sun Yat-sen's Thought

Approximately 100 years ago, Dr. Sun Yat-sen, the founder of the Republic of China, proposed not only ensuring support for the elderly but also advancing the idea that they should receive tangible assistance in their daily lives. This went beyond mere hopes for security, advocating for national and societal policies to aid the elderly in their livelihoods.

As stated by Sun Yat-sen in "Introduction of Two Supplementary Chapters to Lectures on the Principle of People's Livelihood, San Min Chu I":

"The young people to have education, the grownups to have jobs, the old people to have means of support, and all persons irrespective of age and sex to enjoy security and comfort."

In the original text: “少年的人有教育，壯年的人有職業，老年的人有養活，全國男女，無論老小，都可以享安樂。”

Zen Master Hunyuan's Discussions

In addition, Zen Master Hunyuan (2008) in Taiwan offered profound insights into aging, viewing it as a multifaceted process. He emphasized that aging involves not only the natural progression towards maturity in the human life stage but also the attainment of inner tranquility. Furthermore, Zen Master Hunyuan advocated for elders to play a pivotal role in society by imparting wisdom and guidance to younger generations. He envisioned aging as a journey toward an ideal place and a better future, where individuals can find fulfillment and contribute to societal harmony. Zen Master Hunyuan's perspective underscores the holistic development and meaningful contributions that elders can bring to both personal growth and societal well-being.

Thoughts for Tackling Issues

From the above viewpoints, we observe a significant evolution in the thinking process, advancing from the provision of security to the attainment of social harmony. Initially, competent provisions were secured for the aged until their death, ensuring their basic needs were met. Subsequently, the focus shifted to providing old people with means of support, encompassing both financial stability and access to essential services. This progression then highlighted the importance of mental tranquility and a secure future, acknowledging that true harmony requires addressing both material and emotional needs. Ultimately, this advanced thinking process aims to create a mature, peaceful, and harmonious society.

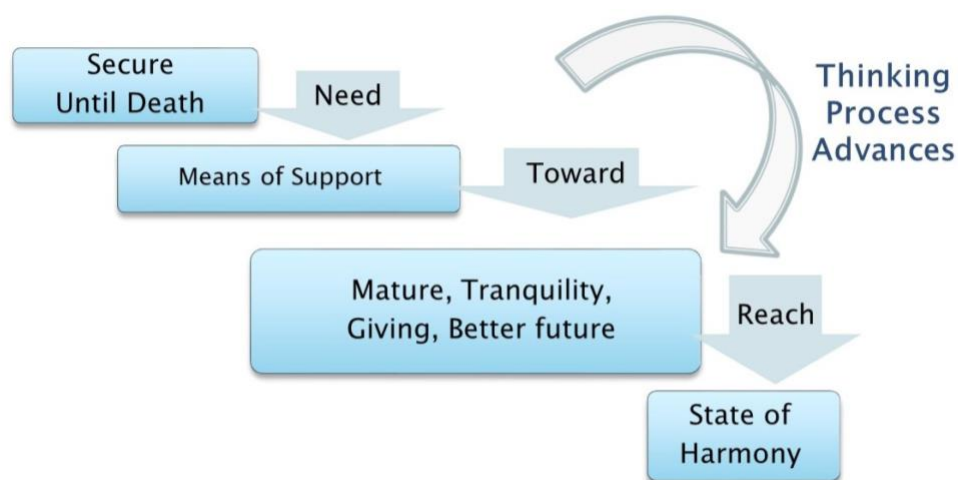


Figure 8: The Evolution of Thought towards Achieving Social Harmony

Public Policy for the Senior

It can be argued that under the above viewpoints, governments strive to adopt public policies to support seniors. In Taiwan, for example, the government has implemented Friendly Care Services and measures to sustain economic security for the elderly. They have established community care stations and diversified senior welfare programs, including senior citizen schools. These comprehensive initiatives ensure that seniors receive continuous and reliable support throughout their lives, securing their well-being until death (Figure 9).

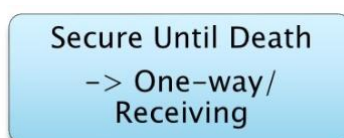


Figure 9: The Public Policy for the Senior (a)

Scholar Lee (2010) proposed that seniors adopt more active approaches to the aging process. These include encouraging participation in volunteer work, facilitating compensated employment opportunities, promoting communication to lower material desires, fostering intergenerational communication, and training seniors to develop skills to care for other elderly individuals or children. These strategies aim to empower seniors and enhance their engagement and well-being in society (Figure 10).



Figure 10: The Public Policy for the Senior (b)

Datong Perspective for Senior Health Care Mechanism

Furthermore, Scholars Lin and Hu (2016) advocate for a Senior Health Care Mechanism based on the Datong Perspective. This approach underscores the belief that the world belongs to everyone, emphasizing a care system designed for mutual benefit. Their research introduces a more comprehensive framework for senior care, encouraging seniors to thrive in an environment aligned with Daoist principles. Care teams are encouraged to embrace the philosophy that the world is a shared resource, guiding them to deliver services with a mindset of mutual support and care (Figure 11).

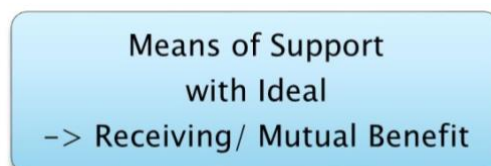


Figure 11: The Public Policy for the Senior (c)

From Receiving to Recirculation and Sustainability

Aligned with Maslow's Hierarchy of Needs, the framework for senior care incorporates various levels of requirements, spanning from physiological necessities to emotional fulfillment and social engagement, all aimed at achieving sustained harmony. Senior care

strategies echo Maslow's model in their approach: Beginning with the fulfillment of fundamental physiological needs, they prioritize providing essential supports and promoting physical well-being. They also emphasize the importance of achieving emotional and psychological maturity, fostering inner peace and tranquility. Furthermore, these strategies encourage seniors to contribute meaningfully to their families and communities, enhancing their sense of belonging and purpose. Additionally, senior care aims to facilitate personal growth and development, guiding individuals towards a more fulfilling and secure future. Lastly, it ensures the provision of an appropriate caregiving environment that facilitates harmony and long-term social sustainability, enabling seniors to live a dignified and fulfilling life in their later years.

Conclusion

Drawing insights from various social perspectives, including the Confucian classic "Datong Pian Section" from the "Liyun Chapter" in Liji, Sun Yat-sen's Thought, and Zen Master Hunyuan's teachings, the authors propose a Mechanism of Sustainable Development for Global Societies (Figure 12).



Figure 12: Mechanism Sustainable Development of Global Societies

This mechanism begins with prioritizing the use of resources to maintain physical health, progressing towards achieving emotional and mental maturity. It emphasizes the importance of contributing positively to both family and society and actively engaging in constructive activities. Ultimately, the goal is to foster a state of harmony and sustainability that supports enduring well-being and prosperity across global communities.

The authors believe that our proposed mechanism aligns with the WHO and UN agendas for health and sustainable development of society (Figure 13).



Figure 13: Proposed Mechanism Echoes the WHO and UN Agenda

References

References to a Journal Publication

- Azapagic, A., Stamford, L., Youds, L., & Barteczko-Hibbert, C. (2016). Towards sustainable production and consumption: A novel decision-support framework integrating economic, environmental and social sustainability (DESIREs). *Computer and Chemical Engineering*, *91*, 93-103.
<https://doi.org/10.1016/j.compchemeng.2016.03.017>
- Castillo, H., Moobela, C., Price, A. D. F., & Mathur, V. N. (2007). Assessing urban social sustainability: Current capabilities and opportunities for future research. *The International Journal of Environmental, Cultural, Economic, and Social Sustainability: Annual Review*, *3*(3), 39-50. <https://doi.org/10.18848/1832-2077/CGP/v03i03/54355>
- Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). The social dimension of sustainable development: Defining urban social sustainability. *Sustainable Development*, *19*(5), 289-300. <https://doi.org/10.1002/sd.417>
- Govindan, K., Shaw, M., & Majumdar, A. (2021). Social sustainability tensions in multi-tier supply chains: A systematic literature review towards conceptual framework development. *Journal of Cleaner Production*, *279*, 123075.
<https://doi.org/10.1016/j.jclepro.2020.123075>
- Lee, K., & Jung, H. (2019). Dynamic semantic network analysis for identifying the concept and scope of social sustainability. *Journal of Cleaner Production*, *233*, 1510-1524.
- Lee, I. (2010). The contention of the elderly issues and public policy. *Taiwan Journal of Gerontological Health Research*, *6*(2), 95-135.
<http://dx.doi.org/10.29797/TJGHR.201012.0001>
- Lin, H., & Hu, C. (2016). Investigation on evaluation and selection of health care mechanism to senior citizen based on the Ta Tung Perspective Harmony Perspective. *The Journal of INNOVation Research & Development*, *12*(1).
- McKenzie, S. (2004). Social sustainability: Towards some definitions. *Hawke Research Institute University of South Australia Working Paper Series*, *27*. Retrieved from http://naturalcapital.us/images/Social%20Sustainability%20-%20Towards%20Some%20Definitions_20100120_024059.pdf
- Office of the Deputy Prime Minister. (2005). *Bristol Accord: Conclusions of Ministerial Informal on Sustainable Communities in Europe*. UK Presidency of the EU
- Purvis, B., Mao, Y., & Robinson, D. (2019). Three pillars of sustainability: In search of conceptual origins. *Sustainability Science*, *14*, 681-695.
<https://doi.org/10.1007/s11625-018-0627-5>

- Rashidfarokhi, A., Yrjänä, L., Wallenius, M., Toivonen, S., Ekroos, A., & Viitanen, K. (2018). Social sustainability tool for assessing land use planning processes. *European Planning Studies*, 26(6), 1269-1296. <https://doi.org/10.1080/09654313.2018.1461811>
- Richter, F., Gawenko, W., Götze, U., et al. (2023). Toward a methodology for social sustainability assessment: A review of existing frameworks and a proposal for a catalog of criteria. *Schmalenbach Journal of Business Research*, 75, 587-626. <https://doi.org/10.1007/s41471-023-00174-y>
- Stender, M., & Walter, A. (2018). The role of social sustainability in building assessment. *Building Research & Information*, 47(5), 598-610. <https://doi.org/10.1080/09613218.2018.1468057>
- Silva, M. E., Ashby, A., & Nascimento, C. M. (2021). Social sustainability in micro and small enterprise supply chains: Empirical insights from the clothing industry. *Latin American Business Review*, 24(1), 1-30. <https://doi.org/10.1080/10978526.2021.1992597>

References to a Book

- Lin, S. (2008), *The Chapter of Great Harmony (Ta Tung) from The Conveyance of Rites (Liyun) by Confucius*, Wei Xin Zong Cultural Communication Co. Ltd.
- Polese, M., & Stren, R. (2000). *The social sustainability of cities: Diversity and the management of change*. Toronto: University of Toronto Press.
- UN World Commission on Environment and Development. (1987). *Our common future*. Oxford: Oxford University Press. Retrieved from <http://www.un-documents.net/our-common-future.pdf>

Reference to a Chapter in an Edited Book

- Chiu, R. L. H. (2003). Social sustainability, sustainable development and housing development: The experience of Hong Kong. In R. Forrest & J. Lee (Eds.), *Housing and social change: East-west perspectives* (pp. 221–239). London: Routledge.
- Colantonio, A., & Dixon, T. (2010). Social sustainability and sustainable communities: Towards a conceptual framework. In A. Colantonio & T. Dixon (Eds.), *Urban regeneration and social sustainability: Best practice from European cities* (Chap. 2). London: Wiley-Blackwell.
- Hinz, M. (2014). Nachhaltigkeitsorientierte Berichterstattung. In: Gesmann-Nuissl, D., Hartz, R., Dittrich, M. (eds) *Perspektiven der Wirtschaftswissenschaften* (pp. 257–278). Springer Gabler, Wiesbaden. https://doi.org/10.1007/978-3-658-03600-3_12
- Pareja-Eastaway, M. (2012). Social sustainability. In S. Smith (Ed.), *International encyclopedia of housing and home* (pp. 502–505). Amsterdam: Elsevier.

Electronic Sources

Legge, J. (Trans.). (n.d.). *Liyun Datong Pian. Book of Rites*. <https://ctext.org/book-of-changes/xi-ci-shang/zh?en=on>

National Development Council. *Population Aging* (n.d.). [Data and graph]. Retrieved from https://www.ndc.gov.tw/en/Content_List.aspx?n=85E9B2CDF4406753

Population Division of the United Nations Department of Economic and Social Affairs (2020). *Government policies to address population ageing, 2020* (1) [Data and graph], Retrieved from https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/undesapd_2020_pf_government_policies_population_ageing.pdf

Saul, M. (2018). *Maslow's hierarchy of needs*. Simply Psychology. Retrieved from <https://www.scribd.com/document/436491785/Maslow-s-Theory>

Social and Family Affairs Administration, Ministry of Health and Welfare. (2015, May 4). *Senior welfare*. Retrieved from <https://www.sfaa.gov.tw/SFAA/Eng/Pages/VDetail.aspx?nodeid=234&pid=3791>

Sun, Y. (n.d.). *Introduction of two supplementary chapters to lectures on the principle of people's livelihood, San Min Chu I* (p. 352). Retrieved from <https://sunology.culture.tw/cgibin/g32/g3web.cgi/ccd=Wm96n7/grapheviewer1?dbid=CF7777777792&initpage=235#>

United Nations, Department of Economic and Social Affairs, Population Division (2022). *World Population Prospects: The 2022 Revision* [Data and graph]. Retrieved from <https://population.un.org/dataportal/data/indicators/70/locations/900/start/2000/end/2024/line/linetimeplotcompare?df=28dfe92b-a52e-4394-924a-d0e27bbd437d>

United Nations, Population Division (2022). *World Population Prospects 2022* [Data and graph]. Retrieved from <https://population.un.org/wpp/Graphs/Probabilistic/POP/65plus/900>

United Nations, Population Division (2022). *World Population Prospects 2022* [Data and graph]. Retrieved from <https://population.un.org/wpp/Graphs/Probabilistic/POP/0-14/900>

United Nations Department of Economic and Social Affairs Sustainable Development (2015). *17 Sustainable Development Goals (SDGs)* [Graph]. Retrieved from <https://www.un.org/sustainabledevelopment/news/communications-material/>

United Nations Department of Economic and Social Affairs, Sustainable Development. (n.d.). *Sustainable development*. Retrieved from <https://sdgs.un.org/goals>

World Health Organization. (n.d.). *Health and well-being*. Retrieved from <https://www.who.int/data/gho/data/major-themes/health-and-well-being>

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***Scientific Learning Innovation to Promote Scientific Process Skills for
Teacher Students Bachelor of Education Program***

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Abstract

The purposes of this research were: 1) to develop the scientific learning package Subject: 5 Integration scientific process skills to promote effective scientific process skills 2) to compare the 5 Integration scientific process skills of the 3rd year teacher students in the bachelor of education program before and after the learning management by using the scientific learning package to promote scientific process skills; and 3) to study the 5 Integration scientific process skills and the level of satisfaction of the 3rd year teacher students in the bachelor of education program toward learning by using the scientific learning package to promote scientific process skills. The research tools consisted of 1) the scientific learning package to promote scientific process skills; 2) the science process skill test; and 3) the questionnaire to measure students' satisfaction with the scientific learning package to promote scientific process skills. The sample group was one classroom of 3rd year students, one group of 27 students from the Faculty of Education. Obtained by a simple random sampling method. The results showed that the quality of the scientific learning package to promote scientific process skills assessed was of very good quality ($\bar{X} = 24.46$, S.D. = 0.59). The mean score of the scientific process skills of the posttest was higher than those of the pretest at the statistically significant.05 level, and the students' satisfaction toward learning by using the scientific process skill packages was at a very good level ($\bar{X} = 4.39$, S.D. = 0.45).

Keywords: Learning Innovation, Scientific Learning Package, Scientific Process Skills

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Introduction

Thai society is currently experiencing rapid transformations in all aspects. The ongoing impact stems from the transition to the industrial revolution. The world is currently grappling with the challenge of adapting to accommodate change. Therefore, it is imperative to advocate for the Thailand 4.0 policy. Human resource capital is a critical factor in enabling organizations to adapt to changing trends. This capital must be prepared to adapt to change. Thailand was rated 21st in the 2017 international ranking of entrepreneurial skills by the International Institute of Management. Thailand was ranked 34th in terms of quality of living (IMD, 2017). In 2018, Thailand was ranked 24th in terms of quality of life and 37th in terms of economy, indicating that Thailand experienced declines in both categories. Furthermore, Thailand's national income was identified as a shortcoming in the ranking. The ranking places Thailand's national income at No. 53 and its investment impact at No. 49 (IMD, 2018). In its past national development, Thailand has prioritized economic prosperity. The country has made significant advancements in the field of information technology. To highlight the importance of innovation and product development This aligns with the development of empirical process skills as a foundation for improving learning quality. The twenty-first century requires essential concepts and cognitive abilities (N. L. Choirunnisa, P. Prabowo, & S. Suryanti, 2018, pp. 1–5).

The first step in enhancing scientific process skills is to promote them. Develop practical abilities. Students of science teachers' cognitive abilities The goal is to improve the design of learning management systems. Activities aimed at acquiring scientific knowledge can further enhance the development of adolescents. This aligns with Addie and her colleagues' research, which aimed to understand the scientific process skills of elementary school science teachers. It was discovered that instructors continued to have misconceptions. It influences the development of practice-based learning activities. It is imperative to advance it during the teacher production process. In the 21st century, scientific process skills and analytical reasoning abilities are indispensable for science teachers to effectively implement the skills in schools (Edy H. M. Shahali, Lilia Halim, & David F. Treagust, 2017, pp. 257–281). Students employ scientific process skills to resolve intricate and unstructured problems through analytical thinking (Irwanto & Eli Rohaeti, 2017, pp. 1–4). Develop scientific process skills so that they can be integrated with learning management processes. This is necessary to ensure that the younger generation understands its significance. Developed practical and cognitive abilities To develop learning management that is both integrated and practical in daily life, Consequently, it is imperative to prioritize the organization of learning to emphasize scientific process skills. In order to enhance the capabilities of pupils in the fields of education and pedagogy at the higher education level, this is crucial because a collective of individuals is responsible for transmitting this knowledge to the younger generation.

Scientific processing abilities this behavior is a result of consistent practice. Engaging in the development of systematic reasoning abilities is a consequence of practice. It is a method that scientists employ in their pursuit of knowledge. Employed to resolve issues it is a cognitive procedure. (Intellectual Process Skills) include the practice of observing data, recording, calculating, categorizing assumptions, and conducting experiments. The Institute for the Promotion of Science and Technology (1992, p. 28; Phop Laohapaibun, 1999, p. 15; Pimpan Dechakupt, 2002, p. 9) defines Intellectual Process Skills. As a result of their education, students acquire process skills. Because of its emphasis on the learning process, Student motivation is associated with the creativity, values, and attitudes of students that are implemented in their daily lives (Maison & Darmaji, 2019, pp. 48–56). The Institute for the

Promotion of Teaching Science and Technology (1992, pp. 1–3) has identified 13 science process skills that can be segmented into the following: There are two primary groups: 1) fundamental scientific process skills; and 2) rudimentary and integrated scientific process skills. These are the fundamental science process abilities found in all eight areas: 1) Observational abilities (observation) 2) Skill assessment (skill assessment) 3) Classification abilities (classification) 4) The capacity to recognize the interrelationships between space and time, as well as the interrelationships between space itself and time. 5) numerical computation abilities 6) Proficiency in data organization and communication is crucial. 7. The skills of expressing opinions from data (inferring) and 8) predicting, which are integrated science process skills in all five categories, are as follows: 1) skills in hypothesis formulation (formulation hypothesis). 2) Operational Definition (Definition of Operation) 3. The ability to identify and manage variables 5. The capacity to analyze and draw conclusions from data, along with 4) the ability to conduct experiments. (Conclusion and Interpretation of Data) Research studies concerning scientific process abilities (Namfon Kucharoenpaisan et al., 2016, pp. 83–100; Mariam Wattanat et al., 2016, pp. 254–264; Paradee Phakdiyothin, 2017, pp. 131–139) revealed that the majority of the studies were focused on scientific process skills.

The level of scientific process skills in education was divided into two primary categories: 1) Fundamental scientific process abilities; and 2) Integrated scientific process skills Using the ability to learn as a reference, Skills such as thinking, collaborative working, practice, and learning management design are essential. We are creating a test to gauge academic performance and tools to measure scientific process abilities. We conduct research on the results of developing science learning tools, aiming to improve the scientific process skills of graduate program students. It is a component of the investigation of graduate students' fundamental scientific process skills in primary education, with the goal of improving their learning capabilities. The curriculum encompasses thinking skills, collaborative working skills, practice skills, and learning management design skills. This is the typical essence of education in terms of scientific process skills. The majority pursued their education in the following disciplines: 1) Academic achievement in various learning sets; and 2) Science process abilities. It is a fusion of learning management and innovation that aims to enhance the learning experience for students. The students independently generate knowledge and engage in the learning process in accordance with their individual interests and abilities. Students acquire knowledge with enthusiasm. This is due to the fact that educators provide motivation. Learning activities are implemented and reinforced. We incorporate learning media that are appropriate, diverse, and aligned with the students' learning methods. The researcher recognizes the importance of implementing a science learning management system to improve the scientific process skills of graduate students. The aim is to promote the continuous progression of higher education levels within the education and education disciplines. The majority of science learning kit research (Kesinee Intha, 2015, pp. 132-141; Damrongsak Sapkhueankhan, 2016, pp. 123-136; LIU RONGHAN, 2016, pp. 73-79; Nanthapat Phongsiroj, 2017, pp. 78-82; Panitthida Rungchaeng, 2017, pp. 95-102) was devoted to the development of science learning kits. a set of activities for studying science The purpose of these activities is to promote the growth of scientific learning skills. Academic success in the field of science requires a capacity for innovative reasoning. Capacity to resolve scientific issues to investigate learning management in the 21st century, I have created a collection of chemistry learning activities that prioritize morality in conjunction with knowledge. Investigate the extent to which students are satisfied with the scientific learning kit. Create a tool to assess students' academic achievements. The instrument includes a questionnaire to gauge student satisfaction with the learning bundle and

a test to assess science learning skills. Researchers aim to investigate how the creation of science learning tools improves the scientific process skills of graduate program students. This is an integral part of the development process for scientific learning kits. It aims to improve the development of skills related to the scientific process. theoretical comprehension The science education learning kit encompasses thinking abilities, group collaboration abilities, and hands-on skills. The following are the fundamental characteristics of the science education learning kit: 1) Create the science learning kit; 2) examine the level of student satisfaction with the learning kit; and 3) develop science learning skills.

For this reason, the researcher plans to conduct a study on the outcomes of developing a science learning kit, with the aim of enhancing the science process skills of graduate education students. which can develop scientific process skills. For graduate students We aim to promote integrated science process skills in all five areas, as follows: 1) Formulation Hypothesis 2) Defining Operations 3) Identifying and controlling variables 4) Conducting experiments; and 5) Interpreting Data and Making Conclusion. Students can help to design learning management. Continue to design science-learning activities.

Research Objectives

1. To create a science learning set Topic: 5 integrated science process skills to promote the science process skills of students in the graduate education program.
2. To compare the five integrated science process skills of third-year graduate students before and after organizing learning using a science learning kit to promote the science process skills of students in the graduate studies program.
3. To study the satisfaction level of third-year graduate education program students who received learning management using science learning kits to promote the scientific process skills of graduate education program students.

Conceptual Framework

The researcher has introduced the concept of developing student learning through a learning management process that emphasizes student participation. Interact with a variety of learning activities through practice, which is active learning management as a conceptual framework for research as follows:

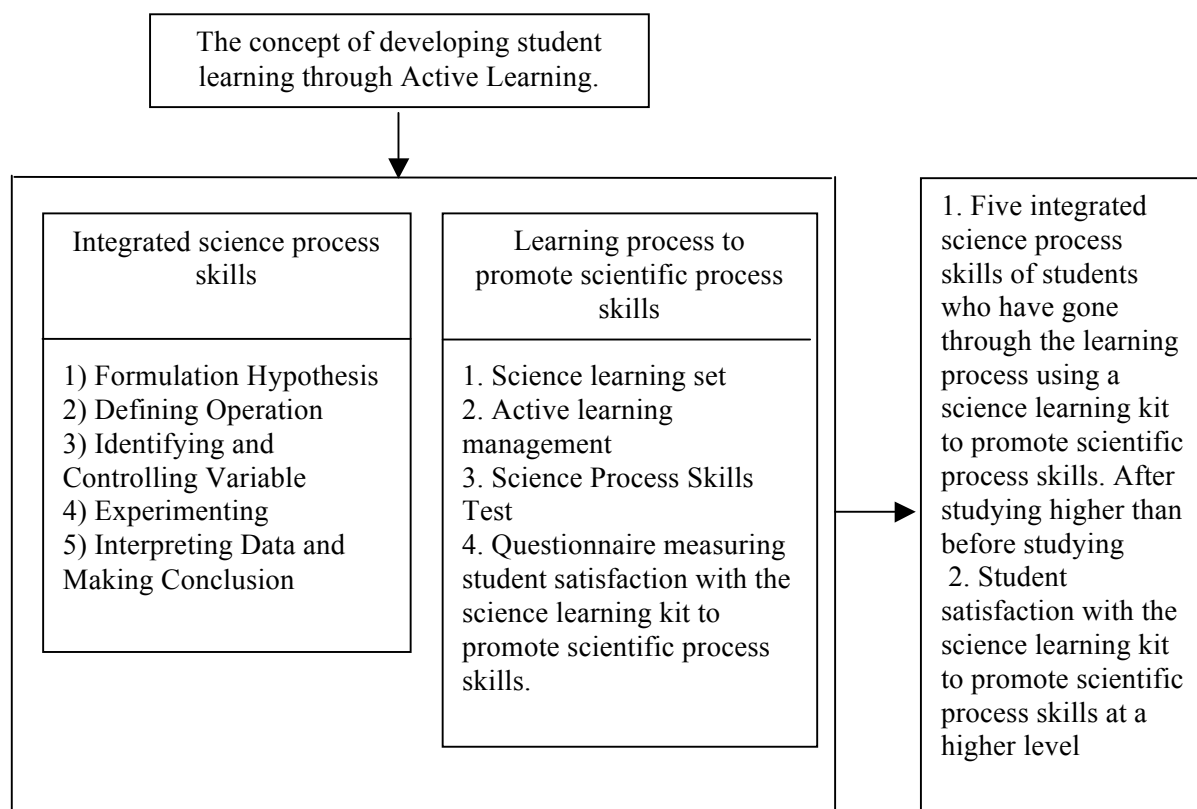


Figure 1: Conceptual Framework

Methodology

Research Hypothesis

1. Integrated science process skills of students who have gone through the learning process using a science learning kit to promote scientific process skills. After studying higher than before studying.
2. Student satisfaction with the science learning kit to promote scientific process skills at a higher level.

How to Conduct Research

Population and sample:

1. The population in this research includes 81 third-year students in the Primary Education Program.
2. Sample group studied in this research Obtained by simple random sampling, including 3rd year students in the primary education field, totaling 27 people.

Variables Studied

1. The primary variable is a science learning package to promote scientific process skills of graduate education program students.
2. The dependent variable is 1) 5 integrated science process skills of students who have undergone a learning process using a science learning kit to promote science process skills. After studying was higher than before, and 2) students' satisfaction with the science learning package to promote science process skills.

Research Tools

1. Science education is designed to foster scientific process skills.
2. Science Process Skills Test
3. The questionnaire measures student satisfaction with the science learning kit to promote scientific process skills.

Data Analysis

1. Basic statistics are used to interpret the science process skills test. In order to promote scientific process skills, we also use a questionnaire to assess student satisfaction with the science learning set. The questionnaire includes the following categories: 1) mean (\bar{X}), 2) standard deviation (S.D.), and 3) percentage (Percentage).
2. The quality of the tools is evaluated using the following statistics: 1) the content reliability index (IOC) of the science process skills test and the assessment of student satisfaction with the science learning set to promote science process skills; and 2) the confidence value of the science process skills test. Additionally, a questionnaire is used to gauge students' satisfaction with the science learning kit, with the aim of enhancing their scientific process skills.
3. We verified the hypothesis using two types of statistics: 1) a t-test (dependent samples) to compare the scores of science process skills before and after the organization of learning using science learning packages, and 2) t-statistics test for a single sample. Comparing the specified criteria to the study satisfaction scores obtained after organizing learning using science learning packages to promote science process skills (3.50).

Procedure

This research involves the following steps: study basic information. Creating research tools Conducting experiments and data analysis The researcher developed the learning kit through a research and development process, which consists of four important steps.

Step 1: Studying basic information Examine documents and conduct research on the fundamental concepts, theories, and principles included in the science learning kit. scientific process skills The promotion of scientific process skills involves conducting related research, ensuring satisfaction, studying scientific content, and utilizing learning management methods in conjunction with science learning kits. It is a guideline for organizing science learning activities in order to promote scientific process skills.

Step 2: Creating research tools Science learning kits are among the tools used in research to promote scientific process skills. Researchers utilize the Science Process Skills Test and a questionnaire to gauge students' contentment with the science learning kit, which aims to enhance scientific process skills.

Step 3: Conducting the experiment Before organizing learning activities using science learning kits to promote scientific process skills, the researcher conducted a pre-test using the Science Process Skills Test on 27 third-year students in the primary education field, then recorded the scores. Carrying out learning activities after organizing the learning activities and recording the scores for further statistical analysis, the researcher took the science process skills test and questionnaire to measure student satisfaction with the science learning kit.

Step 4: Data analysis Find statistics used in data analysis. We use basic statistics to interpret measures related to science process skills. We use a questionnaire to gauge student satisfaction with the science learning kit, with the aim of promoting scientific process skills.

Discussion

The outcomes of the development of science learning packages are to enhance the scientific process skills of students in graduate programs. We can summarize these outcomes as follows:

Part 1 aims to evaluate the five integrated science process skills of graduate students. Table 1 illustrates the pre- and post-organization of learning using science learning kits, with the aim of enhancing the scientific process skills of graduate students.

In the graduate education program, students' five integrated science process skills were compared in Table 1. The comparison took place both before and after the organization of the learning process.

Table 1: Integrated Science Process Skills

Integrated science process skills	Full score	n	(\bar{X})	S.D.
Before studying	30	27	17.51	0.45
After school	30	27	24.46	0.59

* Statistically significant at the .05 level.

Table 1 revealed that the five integrated science process skills of students in the graduate studies program were significantly higher after studying than before studying at the .05 level.

The satisfaction level of students in graduate education programs is evaluated in Part 2. The program has been structured using a science learning package to improve the scientific process skills of students in the graduate studies program.

It is found that the satisfaction of students in the graduate education program that were organized using science learning kits to promote scientific process skills of students in the graduate education program were overall at the highest level ($X = 4.39$, $S.D. = 0.45$), divided into 3 areas as follows: 1) Scientific process skills is at the highest level ($X = 4.21$, $S.D. = 0.43$) 2) learning activities are at the highest level ($X = 4.51$, $S.D. = 0.45$) and 3) overall picture of the learning package Knowledge is at the highest level ($X = 4.45$, $S.D. = 0.47$). As for suggestions, It can be summarized as follows: 1) Activities in the learning set are diverse. Students participate in activities and learn on their own through interesting activities. 2) Learning activities should be selected using virtual reality technology that responds to the current situation. 3) Students can apply a variety of learning skills and activities to design learning activities. You can know it yourself. Design learning activities by yourself and applied in daily life 4) can promote and extend learning activities to further promote integrated science process skills, and 5) can develop problem-solving abilities and creativity along with development scientific process skills.

Conclusion

Research on the results of developing science learning kits to promote the scientific process skills of graduate education program students. The researcher discusses the results at the following important points:

In all five areas of the graduate studies program, students are taught science through the integration of scientific process skills. The science learning kit was employed to investigate the fundamental science process skills of students who underwent the learning process in order to enhance their scientific process abilities and the students' satisfaction with the science learning kit in order to enhance their scientific processing abilities. Students were discovered to possess classification skills, measurement skills, and observation skills. Talents for identifying connections between space and time, as well as space and space. Proficiency in mathematics Proficiency in the preparation and interpretation of information the capacity to form opinions based on data and to forecast has been enhanced. This is in accordance with the findings of Alnol and colleagues (2020: 3425–3448), who investigated the development of scientific process skills through a series of science experiment activities by structuring instruction in a flipped classroom. For educators of science, this is consistent with the work of Namfon Kucharoenpaisan and colleagues (2016: 83–100), who created a fundamental science process skills training program for lower secondary students that was based on the states of substances and solutions. In the case of Wahanni et al., the findings indicated that each science process skill that was acquired encompassed observation skills. Ability to form hypotheses Proficiency in experimental methods Proficiency in the preparation and interpretation of information; proficiency in classification The application of outdoor learning through a variety of activities is effective in the development of scientific process skills and problem-solving abilities, as evidenced by a 75.33% increase in the skills required to form opinions from data and those required to interpret data and draw conclusions (Wahyuni, Indrawati, Sudarti, & Suana, 2017, pp. 165–169).

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References

- Education Source. (2019, July). The effect of inquiry-based science activities on prospective science teachers' scientific process skills. *DOAJ Directory of Open Access Journals - Not for CDI Discovery International online journal of education & teaching*, 6(1), 56-70. Retrieved from <https://iojet.org/index.php/IOJET/index>
- Edy H. M. Shahali, Lilia Halim & David F. Treagust. (2017, 19 November). Primary School Teachers' Understanding of Science Process Skills in Relation to Their Teaching Qualifications and Teaching Experience. *Research in Science Education*, 47(2), 257–281. Retrieved from <https://link.springer.com/article/10.1007/s11165-015-9500-z>
- Emrah Higde & Hilal Aktamis. (2022, March). The effects of STEM activities on students' STEM career interests, motivation, science process skills, science achievement and views. *ScienceDirect Journals*, 43, 1-6. Retrieved from <https://doi.org/10.1016/j.tsc.2022.101000>
- Eugenio Leyva-Figueroa, Magdiel Orozco-Valdivia, Jose Gonzalez-Fraga & Ulises Bardullas. (2023, 10 May). Computer-based inquiry to enhance science process skills in undergraduate students using physiological data. *Journals physiology*, 1-27. Retrieved from journals.physiology.org
- Huseyin Artun, Alper Durukan & Atilla Temur. (2020, 30 May). Effects of virtual reality enriched science laboratory activities on pre-service science teachers' science process skills. *Education and Information Technologies*, 25(6), 5477–5498. Retrieved from <https://link.springer.com/article/10.1007/s10639-020-10220-5>
- IMD WORLD COMPETITIVENESS CENTER. (2017). *IMD WORLD DIGITAL COMPETITIVENESS RANKING 2017*. Retrieved from file:///C:/Users/Macbook/Downloads/world_digital_competitiveness_yearbook_2017.pdf
- IMD WORLD COMPETITIVENESS CENTER. (2018). *IMD WORLD DIGITAL COMPETITIVENESS RANKING 2017*. Retrieved from file:///C:/Users/Macbook/Downloads/imd_world_digital_competitiveness_ranking_2018.pdf
- Irwanto, Eli Rohaeti. (2017, 04 August). Students' science process skill and analytical thinking ability in chemistry learning. *AIP Conference Proceedings 1868*, 030001 (2017). 1-4. Retrieved from <https://doi.org/10.1063/1.4995100>
- Maison, Darmaji. (2019, 30 June). SCIENCE PROCESS SKILLS AND MOTIVATION. *Humanities & Social Sciences Reviews*, 7(5), 48-56. Retrieved from <https://doi.org/10.18510/hssr.2019.756>
- Muhammad Syazali, Umar. (2023, 11 February). Student learning outcomes in basic natural courses viewed from the aspect of attitudes, products, and science process skills. *Eduscience Journal (JES)*, 10(1), 207-217.

- N L Choirunnisa¹, P Prabowo¹, S Suryanti. (2018). Improving Science Process Skills for Primary School Students Through 5E Instructional Model-Based Learning. *Journal of Physics Conf. Series*, P. 1-5. Retrieved from <https://iopscience.iop.org/article/10.1088/1742-6596/947/1/012021/pdf>
- Richard Owino Ongowo, Francis Chisakwa Indoshi. (2013, November). Science Process Skills in the Kenya Certificate of Secondary Education Biology Practical Examinations. *Creative Education*, 11(4), 713-717. Retrieved from <http://www.scirp.org/journal/ce>
- S. Wahyuni, I. Indrawati, S. Sudarti, W. Suana. (2017, 30 April). Developing Science Process Skills and Problem Solving Abilities Based on Outdoor Learning in Junior High School. *Jurnal Pendidikan IPA Indonesia*, 6(1), 165-169. Retrieved from <https://journal.unnes.ac.id/nju/index.php/jpii/article/view/6849/6317>
- T. Tanti, D. A. Kurniawan, K. Kuswanto, W. Utami, I. Wardhana. (2020, 31 December). Science Process Skills and Critical Thinking in Science: Urban and Rural Disparity. *DOAJ Directory of Open Access Journals - Not for CDI Discovery Jurnal Pendidikan IPA Indonesia*, 9(4), 489-498. Retrieved from <https://journal.unnes.ac.id/nju/index.php/jpii/article/view/24139/11137>
- Ünal Çakiroglu, Onurhan Güven & Esin Saylan. (2020, 24 September). Flipping the experimentation process: influences on science process skills. *Educational Technology Research and Development*, 68(6), 3425–3448. Retrieved from <https://link.springer.com/article/10.1007/s11423-020-09830-0>

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Merdeka Curriculum: The Revival of Post-war Indonesian Educational Thought

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Abstract

The Merdeka Curriculum, introduced in 2022, was developed to address the learning loss experienced during the COVID-19 pandemic and to improve upon the previous curriculum, which failed to significantly enhance Indonesian students' educational achievements. Officially adopted as the National Curriculum in 2024, it draws inspiration from educational figures like Ki Hajar Dewantara, particularly his concept of *Manusia Merdeka* (independent individuals) used in post-war Indonesian education. This research examines how post-war Indonesian educational thought has been contextualized and integrated into the Merdeka Curriculum, enriching its philosophical foundation and spirit. The findings suggest that the Merdeka Curriculum effectively revitalizes post-war educational philosophies, impacting educational theory, culture, teacher roles, and student competencies, while also incorporating contemporary developments. However, differences between the Merdeka Curriculum and post-war educational thought exist, particularly in the areas of spirituality and the educational environment. Further study in these areas could strengthen the curriculum's foundation and help achieve national educational goals. A significant challenge moving forward is the implementation of the Merdeka Curriculum across various educational institutions. Ensuring sustainable and consistent application of this policy amidst potential political changes in Indonesia remains a critical concern. The success of the Merdeka Curriculum will depend on its ability to adapt and be maintained within the evolving political landscape.

Keywords: Education, Merdeka Curriculum, Post-war Educational Thought

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Introduction

"The fruit of education is the maturation of the soul, which will enable the realization of an orderly and pure life and livelihood that benefits others."

- Ki Hajar Dewantara, 1942

In March 2024, Indonesia's Minister of Education, Culture, Research, and Technology, Nadiem Makarim, issued Ministerial Regulation (Permendikbudristek) Number 12 of 2024, which established the Merdeka Curriculum (Independent Curriculum) as the national curriculum starting from the 2024/2025 academic year. The Merdeka Curriculum, previously known as the prototype or emergency curriculum, was created to enhance the 2013 Curriculum and as a response to the learning loss experienced during the pandemic covid-19 (Mulyasa, 2023). The curriculum is envisioned to provide more freedom (independence) for the development of students' character and competencies, especially at the primary and secondary education levels, allowing students to pursue their interests more flexibly. This is crucial because COVID-19 has weakened many aspects, including education (Bao, 2020; Kurniawan et al., 2020). Among the impacts are decreased motivation and self-confidence among students, as well as teachers' confusion in meeting learning outcomes amid existing restrictions.

The Merdeka Curriculum is claimed to be inspired by the thoughts of the Father of Indonesian Education, Ki Hajar Dewantara (KHD) (Efendi et al, 2023; Wardhana et al, 2020). Previously, KHD's ideas also served as the foundation for Indonesia's post-war education policies. Permendikbudristek Number 12 of 2024 also mentions that, in addition to being based on the ideals of independence and the philosophy of Pancasila, the Merdeka Curriculum is founded on KHD's framework of thought, particularly related to the concept of developing independent individuals. This means individuals who, both physically and mentally, do not depend on others but rely on their strength. Therefore, the learning process is directed towards liberating, building independence, and sovereignty in students, while still recognizing the authority of educators. Furthermore, according to KHD, education is intended so that students, as individuals and members of society, can achieve the highest levels of safety and happiness.

At a glance, the philosophical foundation of the Merdeka Curriculum shows a development from the 2013 Curriculum, whose philosophical foundation did not specifically mention the thoughts of Indonesian educational figures. The 2013 Curriculum was developed with a philosophical foundation that provided a basis for developing the full potential of students into quality Indonesian individuals, as outlined in the national education goals (Permendikbud RI No. 57 of 2014). Thus, from a philosophical standpoint, the Merdeka Curriculum appears to strive or revive the thoughts or spirit of post-war educational figures who aimed to create independent individuals as the foundation for nation-building. In this regard, the Merdeka Curriculum seeks to bridge the realization of the founding fathers' ideals of Indonesia, which may have been forgotten, resulting in the education system not achieving its goals.

The next question arises as to whether the effort to revive the thoughts of post-war Indonesian educational figures is sufficiently contextual for application today, considering the change in social and global conditions compared to the post-war era. To answer this, the author will compare several concepts of post-war educational thought with the Merdeka Curriculum, especially in aspects of educational theory, culture, teachers, the educational

environment, spirituality, and student competencies. It should be noted that the author will not compare the Merdeka Curriculum with the Indonesian post-war curriculum, but rather with the thoughts of educational figures reflected in various writings.

The subsequent question is how the thoughts of post-war Indonesian educational figures can enrich the philosophical foundation and spirit of the Merdeka Curriculum. From this, insights can be gained that could strengthen the implementation of the Merdeka Curriculum while also revisiting post-war educational thoughts that might still be relevant today.

1. Post-war Educational Thought and Merdeka Curriculum

The foundation of post-war educational curriculum thought can be referred to as "post-colonial education theory," meaning an attempt to balance colonial education systems with education derived from one's own culture and belief in one's ability to grow. The form and content of post-war education are a "counter-institution" to the colonial institution created by the Dutch East Indies government aimed at making every Indonesian *son een trouw en verdienstelijk Nederlands-onderdaan* (a loyal and meritorious Dutch subject).

The orientation of post-war national educational policies is no different from the conception of Taman Siswa's thinking as part of the nation's movement to educate the people and prosper the nation. The goal of national education is to make every child a citizen who uses personal progress to advance the country and the nation. The basic principle is to strengthen patriotism, nationalistic understanding, and orientation towards the masses. The note that Nationalism for Taman Siswa is broad nationalism, based on humanity, opposing chauvinism. "National in nature, humanity in essence," said KHD (Dewantara, 1956).

KHD in this context warns of the dangers of excessive national pride. According to him, Awareness of the shortcomings and mistakes of the nation that need to be corrected through joint efforts must remain. True national education acknowledges the contributions of other nations so that the child realizes that no human progress is achieved without cooperation among several nations.

Post-war educational thinking is oriented towards creating independent individuals or students who are capable of becoming independent workers, who are free in mind, soul, and energy. In shaping these independent individuals, Ki Mangunsarkoro (1951) mentioned that education must be able to free itself from a heavy and binding traditional obstacle of children's souls, namely the inclusion of aspirations as educational goals. "As soon as a child enters school, he must aspire to become a doctor, engineer, high-ranking official, and so on, which essentially means that school is for obtaining status. In the colonial era, the Dutch deliberately made it the goal of education in Indonesia because people who were obsessed with status were easily lured into becoming traitors. Therefore, it is necessary to establish now a clearer understanding and purpose of education that leads children to freedom and high humanity" (Mangunsarkoro, 1951).

Post-war educational thinking also emphasizes the need for a deeper understanding of the Pancasila state foundation. For this reason, Crijns and Reksosiswojo (1960) mentioned that educators should teach children:

- Living on a religious basis: The first and foremost task of education is to shape the child so that they are truly aware of their basic obligations and are also able to fulfill them.

- Living as a true human being: Respecting and loving all living beings, especially human life, its rights, and freedoms. Then we must be patient and compassionate for peace, generous, loyal, and honest.
- Living as a true Indonesian: Thinking, feeling, and acting nationally. All citizens must love their own nation, and if there is a threat, they must be willing to sacrifice themselves. A citizen must also have a noble, calm, and balanced demeanor in all actions, be humble and friendly in social interactions.
- Living on the basis of democracy: Shaping children into democratic and sovereign citizens.
- Living on the basis of justice: Creating a society free from oppressive social conditions and children who strive for justice wherever they are.

As the post-war educational thought was based on resistance to the previous education system, the Design of the Merdeka Curriculum is also based on an evaluation of the previous curriculum (the 2013 curriculum), which was considered unsuccessful in meeting national educational goals. The Merdeka Curriculum in this case elaborates on the concept of independence on 3 (three) principles that differentiate it from the previous curriculum, namely: (1) ensuring and supporting the development of competencies and character, (2) flexibility, and (3) focusing on essential content. Its implementation is done through:

- Project-based learning for the development of soft skills and character, including faith, piety, noble character; mutual cooperation; global diversity; independence; critical thinking; and creativity. Around 25% of the available lesson hours in the Merdeka Learning curriculum structure should be allocated to project activities.
- Focus on essential materials is expected to provide sufficient time for in-depth learning of basic competencies such as literacy and numeracy. The Merdeka Curriculum is expected to reduce the burden of learning and face-to-face classroom hours, including a reduction in burdensome teaching materials for students. The Merdeka Curriculum emphasizes the development of competencies as well as the formation of character and the development of students' creativity.
- Teachers have the flexibility to conduct teaching according to student's abilities (teaching at the right level) and also to make adjustments to local contexts and content (Mulyasa, & Ulinuha, 2023).

The Merdeka Curriculum also adopts post-war thinking, namely the orientation of “patriotism, nationalism, and democracy,” as well as Pancasila in the concept of forming the Pancasila Student Profile (Rukmana et al, 2023). The difference is that the Pancasila Student Profile also includes elements of character and 21st-century competencies. The Pancasila Student Profile, based on Regulation of the Minister of Education and Culture Number 22 of 2020, includes aspects of (1) Faith, piety to Almighty God, and noble character, (2) cooperation, (3) Critical thinking, (4) Global diversity, (5) Independence, and (6) Creativity.

2. Cultural Aspect

The discussion on national culture in the Merdeka Curriculum is outlined in Minister of Education and Culture Regulation Number 12 of 2024, which mentions the philosophical basis of the Merdeka curriculum as consisting of a curriculum based on local culture or making the nation's culture the root of the curriculum with the aim of building present and future life. This concept is elaborated in flexible intracurricular programs (curriculum adapting to cultural characteristics and local wisdom). For example, local content materials can be taught in three ways: by integrating local content into existing subjects, integrating

local content into Pancasila student profile strengthening projects, or by developing special local content subjects as in the 2013 Curriculum. In general, the Merdeka Curriculum's view of cultural values is to preserve the noble cultural values of the nation and absorb new values from global culture positively and productively (Ministry of Education and Culture, 2024).

For comparison, post-war Indonesian thought also emphasizes the importance of cultural aspects, as seen in the thinking of KHD that, "Taman Siswa does not embody a subculture" (Dewantara, 1972). The culture of Taman Siswa is the culture of Indonesia. The Taman Siswa culture is the Indonesian culture." In this regard, although the concept of Taman Siswa is influenced by Javanese culture, Ki Hajar Dewantara does not see it as a separate part of the national culture in general.

Post-war educational thinkers consider that Indonesians inherently have a love for culture. Therefore, educational policy essentially only needs to revive the cultural, aesthetic, and ethical religious elements that have been forgotten but still live in the blood of Indonesians (Ki Tjokrodijidjo, 1972).

In the early days of Independence, the Republic of Indonesia was facing problems of division both due to ideological differences and regional sentiments. Therefore, cultural education policies were carefully regulated and more directed towards uniting feelings of cooperation. KHD states that every individual should be proud to be Indonesian above the love for their region. According to him, "Regional love may be seen as God's will, but not so with love for the homeland. Therefore, teaching and education need to develop regional love into love for the homeland" (Dewantara, 1972).

Both the Merdeka Curriculum and post-war thinking view regional and national cultures as important parts of development. The difference is, while post-war thinking seeks to emphasize national unity due to the fragility of the newly born state from regional disputes, the Merdeka Curriculum opens space for preserving the noble cultural values of regions (local content) through a flexible curriculum while attempting to absorb new values from global culture positively and productively.

3. Teacher Aspect

The success of implementing the national education system depends heavily on teachers as the direct implementers of the curriculum. Teachers play a crucial role in both post-war educational thinking and the Merdeka Curriculum.

Post-war Indonesia faced a shortage of teachers, so educational policies were oriented towards meeting this need by striving for teacher education and other educational personnel. However, the teacher education process remained strict because in the concept of Taman Siswa, teachers are no longer just individuals who are good at teaching in front of the class, but they must also have other abilities as educators, supervisors of student activities, guides, counselors, advisors, and possess proper insights into relevant literature/technology for their tasks. Teachers perform their duties based on "Liefde en toewijding" (love and dedication) in finding time and opportunities fully, to practice education of spirituality, aesthetics, sociality, and ethics (Adisasmita, 1951). For this purpose, clear selection criteria are needed for prospective teachers at all levels of educational institutions in addition to ensuring adequate teaching facilities.

What does it mean to have a teacher training school without the latest laboratory equipment and library resources? The minimum and maximum teaching hours must also be limited, with the intention of having time to rethink what has been taught and to add knowledge through reading. Naturally, this leads to the creation of other primary conveniences, such as living expenses, housing, electricity, and so on. A teacher is required to have honest, consistent, humble, and compassionate behavior toward students. The absence of one or two of these behavioral elements will undoubtedly diminish the teacher's authority in the classroom and in society.

In Ki Hajar Dewantara's view, the role of a teacher is actualized through the philosophy of; *Ing Ngarso Sung Tulodo, Ing Madyo Mangun Karso, Tut Wurihandayani* (Efendi et al, 2023). This means that the teaching-learning process is independent, prioritizes a family-like system, and becomes a noble model exemplified by educators.

The principle of *tut wuri handayani* from Ki Hajar Dewantara, which means guiding from behind, shows the democratic nature of a teacher, in the sense that students are free to choose their own path; but the teacher follows closely from behind to guide if deemed necessary according to their discretion. Given the heavy role of teachers, teacher education is carried out to prepare teachers thoroughly, it should not be produced through instant processes. Because if a teacher is not mature, they can produce misguided students. Adisasmita (1951) states that teachers should not only provide necessary and good knowledge but should also educate students to seek knowledge themselves and use it for the common good.

To be able to perform their role well, post-war educational thinking emphasizes the aspect of authority as an essential requirement for a teacher. Without it, students will not follow guidance from the teacher. Being a teacher is not just about mastering knowledge and skills but also having inner qualities, namely Sattwa or stability and calmness (Susongko, 2023). Furthermore, Pribadi (1987) adds that the effectiveness of education must involve aspects of authority so that teachers affect the expected behavior of students. Authority can only exist if the educator has realized the values they want to develop in the students.

According to Adisasmita (1951), students must obey and respect their teachers. Therefore, teachers must also possess qualities that require students to respect them. Teachers must prove their superiority to students in terms of knowledge, morality, civilization, and self-restraint (*Zelfbeheersing*). In addition, teachers must be able to establish close cooperation with school principals, parents, and the government.

In line with this view, the Merdeka Curriculum also places teachers as authorities in educating students and implementing the curriculum in learning. In addition to being a source of learning, teachers are expected to be learning facilitators supported by professional, pedagogical, personality, and social competencies. Through these competencies, teachers are expected to realize the implementation of independent learning policies and their goals. (Kementerian Pendidikan dan Kebudayaan, 2022).

Adapting the concept of *tut wuri handayani*, the concept of the Merdeka Curriculum also promotes student-centered learning conducted by teacher facilitators: focusing on individual students, their experiences, backgrounds, perspectives, talents, interests, abilities, and learning needs. In this context, creative practices in education must be carried out to help students build knowledge by defining what is important to them and how the process strengthens their confidence and individuality (Sibagariang et al, 2021).

To enable teachers to fulfill their role effectively, the Merdeka Curriculum regulates: 1. Reducing the heavy administrative burden on teachers, 2. Providing space for teachers to develop more varied (flexible) learning tools, 3. Providing open access for teachers to use various learning resources, 4. Providing more space for teachers to consider what students need to achieve learning goals, and 5. Considering the need for improved English language competence, the Ministry encourages the provision of teacher training for those who will teach English in schools.

The consolidation of material focused only on essential content is regulated in the Merdeka Curriculum so that teachers have space for discussions, debates, and the use of other teaching methods that can encourage students to develop their thinking and character (Bangkara, 2022).

4. Educational Environment Aspect

The educational environment receives high attention in post-war educational thinking. In this regard, KHD introduces the *SISTIM TRISENTRA*, which is a concept of education that can be carried out both inside and outside of schools to enliven, enhance, and delight the social feelings of Indonesian children, namely the family environment, the educational environment, and the youth movement environment that need to collaborate.

The family environment is placed as the first and most important center of education because since the emergence of human civilization until now, the family has always influenced the moral growth of every individual. The feelings of love, unity, and other feelings related to moral education are found within the family, and no other form of education can match it.

The educational environment, in this case, is the center of education, which is specifically responsible for nurturing intellectual intelligence (intellectual development) and the imparting of knowledge. However, KHD criticizes the Western school model's view that only focuses on the search for and imparting of knowledge and intellectual intelligence, which he believes will always be *zakelijk* or soulless.

Without the spiritual nuances in the organization of schools, then all employees there will be as enthusiastic as "workers" or equivalent to instructors, not teachers. Such a school organization will distance children from their family environment and their community environment (Dewantara, 1972).

Furthermore, education needs to involve the youth environment, namely the youth movement that still involves the elders as advisors, granting adequate freedom to the youth to observe and act, and supporting efforts towards the development of spiritual intelligence or moral character (character formation), of national cultural flow (national morality), and towards the close relationship between the family environment, the educational environment, and the youth environment, as centers of education. In essence, every center of education must understand its role and position:

- Family to educate moral values and social behavior.
- Educational institutions as centers of knowledge, namely for the effort to seek and provide knowledge, in addition to intellectual education.
- The youth movement as the area of independence for the youth to exercise self-control, which is very necessary for character formation.

The Merdeka Curriculum does not specifically discuss the educational environment. However, the Minister of Education and Culture explained the dimension of education as an interaction between three environments: curricular, co-curricular, and extracurricular (Mulyasa, 2021). The role of the family in the Merdeka Curriculum, as mentioned in the *Buku Saku Kurikulum Merdeka* (2022), is only to provide support to schools in implementing the Merdeka Curriculum. Parents are expected to become learning companions for their children besides understanding the competencies that need to be achieved by the child in each phase. In this regard, the Merdeka Curriculum has not placed parents in a central role in education, especially in terms of moral values and social behavior.

Moreover, the Merdeka Curriculum does not place the youth movement as one of the important dimensions of education. One form of youth movement, namely the Scout movement, is no longer a mandatory extracurricular activity for students. However, youth activities like the Scouts can build character and represent values of nationalism, humanity, and love for the homeland (Rukmana K, 2023).

5. Aspect of Spirituality

Ki Hajar Dewantara, like several post-war education figures, considered the spiritual or inner aspect of education important as an antithesis to the colonial education system, which emphasized worldly aspects more. However, they remained progressive in their thinking, avoiding excessive spiritual orientation, as evidenced by the "narimo" nature and fatalistic tendencies of many Indonesian societies at that time, which was considered to hinder progress. "An examination of life that prioritizes noble spirituality must now be accompanied by its realization in action in the worldly realm. The religious nature of our nation must be manifested through actions and services to fellow humans, to society, so that it is a religion not only performed by worshiping the Almighty but also through actions towards society, towards every human being or creature of God" (Mangunsarkoro, 1952).

The view of spirituality is reflected in the ideals of *Taman Siswa*, namely to create happy individuals or those who are fulfilled both materially and spiritually. Ki Hajar Dewantara metaphorically describes someone who is materially wealthy but suffers spiritually as "riding a motorcycle while crying." Similarly, it is not someone who feels satisfied even though their material needs are lacking (content with a dilapidated house, torn clothes, unpleasant food, and so on).

One of the pillars of *Taman Siswa* education states that the orientation towards high spirituality must not forget or neglect the worldly aspects because the elevation of the soul must also mean sovereignty over the worldly or, in Dutch, "Necessary and useful knowledge is that which meets the ideal and material needs of humans as members of the environment." The order of birth, the peace of its soul, is the society that *Taman Siswa* aims to achieve. According to *Taman Siswa*, an Orderly Peaceful society is the highest goal to give birth to Independent Humans as a place for free human life, and conversely, the growth of independent humans is also a fundamental requirement for the realization of an orderly peaceful society.

In contrast to post-war educational thinking, the Merdeka Curriculum does not specifically address spiritual and material aspects. Generally, only the curriculum orientation is mentioned, aiming to make Indonesian students lifelong learners with global competencies and behavior by Pancasila values (Pancasila Student Profile), with the main goal being the

preservation of the noble values and morals of the nation, readiness to become global citizens, the realization of social justice, and the achievement of 21st-century competencies (Rusnaini, 2021). The loss of the aspect of "individual happiness and safety achievement" that once underpinned Ki Hajar Dewantara's concept of education in this regard becomes a clear distinction.

6. Aspect of Student Competence

Ki Hajar Dewantara, through the principles of Taman Siswa, did not specifically mention the competencies that a student should possess. In his view, teachers need to provide necessary and good knowledge to students, while educating the students to seek knowledge themselves and use it for the common good. Good and necessary knowledge is that which is beneficial for both worldly and spiritual needs in social life (Sajoga, 1952).

Improving literacy became one of the main goals of post-war education. The Dutch education system, which could only reach 3-10% of the Dutch East Indies population, left the majority of the population unable to read. Providing basic education to the population thus became a priority in post-war education policy.

However, half a century after the implementation of post-war education policies, it was found that the reading interest of Indonesian society was still low. One of the reasons is attributed to teaching methods that are still dictatorial, thus not stimulating students to enjoy reading. This is different from the Dutch education system which encouraged students to read. During the Dutch era, teachers did not teach reading (dictating), but rather students had to read books themselves, and then draw conclusions. Every opportunity was filled with activities calling students to the front of the class to be asked about the books they read. This activity continued continuously for nineteen years. Therefore, reading became a habit. The loss of educational methods since independence may have led to the continued low interest in reading until the present generation.

Improving reading interest or literacy skills has again become a concern in the Merdeka Curriculum. An OECD report states that about 70% of Indonesian students are categorized as having low literacy skills, where they are unable to identify the main idea of a sentence or a slightly longer reading (Syawahid, M., & Putrawangsa, S., 2022).

Improving literacy skills is an integral part of the Merdeka Curriculum's orientation to equip students with 21st-century skills, namely learning & innovation skills (4Cs), life & career skills, information, media, & technology skills, as well as key subjects (3Rs) & 21st-century themes (Trilling & Fadel, 2009). Various formulations of these competencies are considerations in the preparation of the Pancasila Student Profile and Graduation Competency Standards.

Adapting to the competency needs of the 21st century, the Merdeka Curriculum also changes the science and social studies specialization system at the high school level. The Merdeka Curriculum does not eliminate specialization but modifies it by starting specialization in grade XI and opening opportunities for students to choose subjects according to their interests, talents, and abilities.

The changes made by the Merdeka Curriculum are basically in line with the evaluation of education policies conducted before independence. At that time, the Netherlands had a

decision that had not been implemented until the end of the occupation, which was to eliminate the science-social studies divide at the high school level. Because, according to education figures at that time, in the twentieth century all sciences would require language, mathematics, and logic based on language and mathematics. Language occupied a very important position in the Dutch education system. And its teaching was tightly controlled from elementary school to university level. The Netherlands emphasized language education because, according to them, one cannot think without language. So that someone can think clearly, the language used must also be clear. As is known, all sciences are based on thought. Failure to implement this system resulted in educated Indonesians being more interested in exact sciences, economics, law, and so on. The abolition of the rigid specialization system by the Merdeka Curriculum, although late, should therefore be able to improve student competencies and promote better scientific growth.

Conclusion

Based on the discussion above, it can be concluded that Kurikulum Merdeka acts as the revival of post-war educational thinking in aspects of educational theory, culture, teachers, and student competencies, although there are some adjustments in line with the times. The differences between Kurikulum Merdeka and post-war thinking in this regard are evident in aspects of spirituality and the educational environment, which can be further studied to strengthen the foundation of Kurikulum Merdeka in achieving national educational goals.

The next challenge lies in the implementation of Kurikulum Merdeka policies to ensure consistent implementation across various educational institutions, as well as the threat of policy changes in line with political regime changes in Indonesia in 2024.

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References

Journals

- Bao, W. (2020). COVID -19 and online teaching in higher education: A case study of Peking University. *Human Behavior and Emerging Technologies*, 2(2), 113–115.
<https://doi.org/10.1002/hbe2.191>
- Efendi, Pitri et al. (2023). Relevansi Kurikulum Merdeka Dengan Konsepsi Ki Hadjar Dewantara: Studi Kritis Dalam Perspektif Filosofis-Pedagogis. *Jurnal Elementaria Edukasia*. 6. 548-561. 10.31949/jee.v6i2.5487.
- Kurniawan, N., et al. (2020). Implementasi prinsip-prinsip Merdeka Belajar bagi calon konselor. In *Prosiding Seminar Nasional Bimbingan dan Konseling Universitas Negeri Malang*.
- Rukmana, K. et al (2023). Implementasi dimensi profil pelajar Pancasila dalam kegiatan pramuka pada Kurikulum Merdeka. *Pandega: Jurnal Kajian Pendidikan dan Kepramukaan*, 1(2), 46-50. <https://doi.org/10.26858/Pandega.v1i2.53598>
- Rusnaini. (2021). Intensifikasi profil pelajar Pancasila dan implikasinya terhadap ketahanan pribadi siswa. **Jurnal Ketahanan Nasional*, 27*(2), 230-249.
<http://dx.doi.org/10.22146/jkn.67613>
- Sibagariang, D., Sihotang, H., & Murniarti, E. (2021). Peran guru penggerak dalam pendidikan Merdeka Belajar di Indonesia. *Jurnal Dinamika Pendidikan*, 14(2).
- Susongko, "Educational Theory Based on Ancient Javanese Philosophy," The 14th Hatyai National and International Conference, 2023.
- Syawahid, M., & Putrawangsa, S. (2017). No Title. *BETA: Jurnal Tadris Matematika*, 10 No. 2, 222–240. <https://doi.org/http://dx.doi.org/10.20414/betajtm.v10i2.121>
- Wardhana, et al (2020). Konsep pendidikan Taman Siswa sebagai dasar kebijakan pendidikan nasional Merdeka Belajar di Indonesia. *Seminar Nasional: Implementasi Merdeka Belajar Berdasarkan Ajaran Tamansiswa*. Universitas Sarjanawiyata Tamansiswa. ISBN: 978-602-53231-5-7.

Books

- Adisasmita, Ki Sumidi (1973). *Jasa-jasa jiwa-besar Kartono-Kartini*. Yogyakarta: Yayasan Sosrokartono.
- Bangkara, B.M.A.s et al (2022). Rethinking the "Kurikulum Merdeka for Learning". *EDUTECH : Journal of Education And Technology*. 6. 10.29062/edu.v6i2.424.
- Crijn & Reksosiswojo (1960). *Pengantar di dalam Praktek Pengajaran dan Pendidikan*. Jakarta: Prajnaparamita.

- Dewantara, Ki Hajar (1952). *Buku peringatan Taman-Siswa 30 tahun, 1922-1952*. Jogjakarta: Majelis Luhur Taman Siswa.
- Dewantara, Ki Hajar. (1972). Cita-cita dan ilmu hidup Taman Siswa. Dalam Peringatan 50 tahun Taman Siswa. Yogyakarta: Majelis Luhur Persatuan Tamansiswa.
- Kementerian Pendidikan dan Kebudayaan. (2022). *Kajian akademik kurikulum untuk pemulihan pembelajaran*. Jakarta: Kemdikbud.
- Kepmendikbudristek Nomor 56 Tahun 2022 tentang Pendoman Penerapan Kurikulum dalam Rangka Pemulihan Pembelajaran (Kurikulum Merdeka).
- Ki Tjokrodijdo. (1972). Cita-cita dan ilmu hidup Taman Siswa. Dalam Peringatan 50 tahun Taman Siswa. Yogyakarta: Majelis Luhur Persatuan Tamansiswa.
- Mangunsarkoro, Ki (1952). *Buku peringatan Taman-Siswa 30 tahun, 1922-1952*. Jogjakarta : Majelis Luhur Taman Siswa.
- Mulyasa, & Ulinuha, A. (2023). *Implementasi kurikulum merdeka*. Jakarta: Bumi Aksara.
- Pribadi, G. (Ed.). (1987). *Gema edisi Yubileum*. Yogyakarta: Media Komunikasi Keluarga Ex-HIK Yogyakarta.
- Tim (2022) *Buku Saku Merdeka Belajar*. Jakarta : Kemdikbud.

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***Tobacco Harm Reduction: Communication Strategy to Build Awareness of Smokers—
A Case Study in Indonesia***

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Abstract

The number of smokers in Indonesia currently reached 66 million (25.09%) of the total number of smokers population reaching 264 million. The government has issued various rules to reduce the number of smokers, but the results are still not effective. This study aims to determine the influence of demographics, economy, health, the role of government (political will), and communication strategy on the awareness of smokers in reducing the dangers of cigarettes. Data collection was carried out through a questionnaire distributed to 920 randomly selected respondents, data analysis using Structural Equation Model. There are six independent variables that will be assessed in this study: Demographics (X1), Economic (X2), Socio-cultural (X3), Health (X4), Government political will (X5) and Communication strategy (X6); while awareness of smokers to reduce the danger of smoking (Y) as a dependent variable. The results of the analysis show that economic and socio-cultural factors do not directly affect to the awareness of reducing the dangers of cigarettes. But indirectly its influence becomes significant through intervening variable of communication strategies. Meanwhile, health factors and the government's role have a very significant influence both directly and indirectly on reducing the dangers of cigarettes. The Structural Equation Model of awareness smokers is $Y = 0.040 \cdot X2 - 0.11 \cdot X3 + 0.42 \cdot X4 + 0.41 \cdot X6 - 0.055 \cdot X1 + 0.20 \cdot X5$, $R^2 = 0.74$. Thus, the strongest factor that contribute to the awareness of the need to reduce the impacts of smoking are health (42%), communication strategy (41%), and government's political will (20%).

Keywords: Harm Reduction, Awareness, Communication Strategy, SEM

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1. Introduction

The number of smokers in Indonesia continues trending up each year, reaching approximately 66 million active smokers. Smoking is a common habit in Indonesian society which has become a lifestyle among urban and rural community as a form of social intimacy and as a part of traditional ceremonies in some regions. Religious experts share different views on the religious law on smoking. Some Islamic scholars allows smoking, while some others are against it. Seen from a different perspective, smoking in several community is a tradition and culture that is passed down from generation to generation. Smoking in some communities also serves as a bridge for interaction among the people. Of the 66 million smokers, only 10% or 6.6 million people develop health problem from it and need medical attention. If the average medical treatment cost for every person is Rp 10 million, there will be around Rp 66 trillion fund spent on this issue. This large amount of fund is a big expense of BPJS spending that Indonesia should bear.

The latest data released by Kompas.com in 2022 showed the growth in cigarette production ranged between 5% to 7.4% per year. In 2015, the Ministry of Industry predicted that cigarette production would reach 398.6 billion sticks and was expected to increase by 5.7% in 2016 to 421.1 billion sticks. In 2020, there would be 524.2 billion sticks of cigarettes produced (Kontan.com 2021). Meanwhile, (Baraja 2014) predicted annual cigarette production in Indonesia of around 340,000,000,000 sticks a year. Approximately, 298.4 billion cigarette sticks would be produced every day in 2020. If each pack of cigarettes contains 16 sticks, there will be 18,650,000,000 cigarette packs discarded during 2020. The cigarette production until July 2021 showed an uptrend of 2.8 percent on an annual basis (year on-year/yoy). By June 2022, the cigarette production reached 177.66 billion sticks that was higher than 172.92 billion cigarette sticks produced in the previous year (Kompas.Com 2022).

Stop smoking campaign has been applied by Indonesian government, including strict tobacco control policy, smoking danger campaign on the pack, smoking prohibition in some areas and so on. Unfortunately, those attempts have not yet shown effective results. As the smoking rate increases, the prevalence of smoking-related diseases will also continue to increase. This condition raises a big question on why the anti-smoking campaigns do not work. Kurniasih (2021), Mohammadnezhad and Kengganpanich (2021), Rochayati et al. (2015) pointed out some factors that motivate a person to smoke, including encouragement of friends, stress relieving effect, the comforting feeling and family-related factors. (Rochayati et al. 2015) included self-perception of smoking into the list. According to (Achadi 2008; Kholil, Alifahmi, and Bimo 2021; Mohammadnezhad and Kengganpanich 2021; Putri and Hamdan 2015; Rochayati et al. 2015), health, age, economy, and family background are attributed to smoking habit. Therefore, raising the awareness of the harmful effects of smoking requires effective strategy which includes communication strategy, the content of the messages, and the media used for the dissemination (Frandsen and Johansen 2017).

The effectiveness of communication through images and narratives is determined by the culture, education and customs. In general, Indonesian society have inadequate reading habit and they are rather obedient toward the speeches or direct oral discussion delivered by public figures and the presentation of stories of those who are affected by the negative impacts of smoking. Drovandi (2019) and Notanubun (2016) found the cigarette warnings on the package are irrelevant to the real condition. Interestingly, in general, all smokers agree that smoking can cause serious health problems. Regarding these considerations, a strategy should

be specifically designed to build smokers' awareness on the dangers of smoking by taking into account the age, education, socio-cultural background. This study identified and analyzed the dominant factors that influence ones' awareness to reduce the harm of smoking. The results were then analyzed to propose the design of effective communication strategy in order to reduce the harm of smoking.

2. Literature Review

Smoking habit has been linked to hypertension as the chemicals, particularly the nicotine contained in tobacco can damage the inner lining of the artery walls, resulting in plaque buildup (atherosclerosis), (Health et al. 2015; Singh and Kathiresan 2015). Singh and Kathiresan (2015) and Vineis (2008) explained that these chemicals then induce the release of catecholamines from the adrenal glands, thereby intervening the cardiovascular system by increasing heart rate; cardiac contractility; narrows the central, peripheral, and coronary arteries; vascular resistance; stroke volume; blood pressure; cardiac output; myocardial contractions; which then leads to endothelial dysfunction. One of the most dangerous side effects of smoking is lung cancer. Smoking is accumulating toxins in the body (Singh and Kathiresan 2015). The effects of smoking can also appear in the forms of yellow teeth, impaired heart function, and increased blood pressure (Raghu et al. 2015a; Vineis 2008). Many smokers are quite aware about these impacts of smoking, yet they find quitting smoking challenging. The success rate for someone to quit smoking without assistance is only 3-6% (Patel, Patel, and Patel 2016; Raghu et al. 2015b). Hence, special assistance is necessary to smoking termination (Burza 2021).

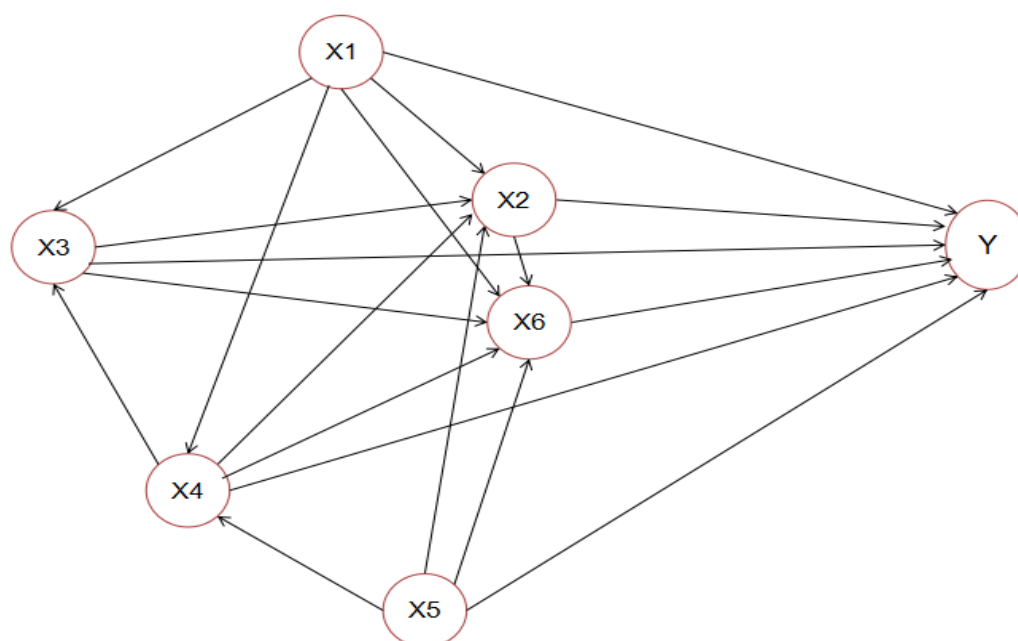
The anti-smoking campaign by applying tobacco restrictions, smoking danger labelling on the package, and prohibition of smoking have not yet shown effective results as seen from the increases in the number of smokers. Drovandi (2019) from the University of James Cook in Queensland, Australia conducted a study on 2000 active smokers found the smoking danger labels on the cigarette packaging effective at first. However, the effect has faded after years. Meanwhile, (Notanubun 2016) asserted that this labelling is quite important. The fact that the number of smokers keep increasing might be caused by personal traits of the readers (Purwasito 2017). The failure of this campaign might be due to the delivery of the message that was too general for audiences of different background (Kholil et al. 2021; Purwasito 2017).

According to (Denning 2001; Kerber, Donnelly, and dela Cruz 2020; Notanubun 2016), the fear mongering or threatening content is ineffective. There has to be a process of dialogue and empathy (respect) given to build awareness. An appropriate communication strategy should be proposed to ensure that the message conveyed is understood by smokers. Communication strategy is defined by (Conrad 2011; Frandsen and Johansen 2017) as a way of conveying messages to a person or audience appropriately by taking into the consideration of audiences' background. The content of the message should be tailored to specific audience. Communication strategies will become more effective by utilizing digital technology. Digital communication strategy has been widely used, especially since the COVID-19 pandemic (Chrisnatalia 2020). Therefore, to reach a wider target of smokers, digital technology should be integrated in to the public education attempts. Digital technology offers some advantages in the message delivery (Abudabbous 2022; Chrisnatalia 2020) through both synchronous or asynchronous ways to reach a wider audience with better effectiveness.

(Kholil et al. 2021; Kurniasih 2021) stated that the campaign should be carried out on a segmented basis because smoking history is strongly influential on smoking habits. According to (Chezhian et al. 2015; Mohammadnezhad and Kengganpanich 2021; Rochayati et al. 2015a) health, economic, family habits and socio-cultural factors have a significant influence on awareness to stop smoking. Most smokers realize that spending on cigarettes can adds to the family expense, for those who earn less than IDR 5 million/month (Kholil et al. 2021); Health factors, especially the intention to protect themselves and their families, are the essential reasons for smokers to stop smoking (Kurniasih 2021; Mohammadnezhad and Kengganpanich 2021). Some communities regard smoking a bad habit, indicating that social and cultural norms also influence smoking habits (Rochayati et al. 2015).

Efforts to minimize the dangers of smoking will not be successful without the commitment and support of government policies. The government has the authority and power to compel or prohibit the distribution of cigarettes. According to (Baraja 2014), the government must be consistent and implement a reward and punishment system to lower the number of smokers. The reward and punishment system needs to be applied and the government should also consistently control cigarette advertising through both direct and indirect approaches (Achadi 2008; Mancini et al. 2008; Sandford 2003).

Based on the literature review, the framework of this study was proposed as follows.



Description:

X1	: Demographics	X4	: Health
X2	: Economics	X5	: Government political will
X3	: Socio-Cultural	X6	: Communication strategy
Y	: Awareness of smokers to reduce the danger of smoking		

Figure 1. Framework of the Study

3. Method

This quantitative study analyzed the data that were obtained using questionnaire scaled in a five-point Likert scale. The population of this study were smokers in Greater Jakarta Area

area that included (1) active smokers, (2) inactive/quit smoking smokers, (3) HPTL users; (4) cigarette traders. The sample size was determined using Slovin's formula and 400 samples were selected purposively theory (Adam 2020; James 2001). 400 sets of questionnaires distributed, only 255 respondents gave turned around complete answers for further analysis. Data analysis included descriptive to examine respondents' responses to the research questions, while inferential analysis examined the effect of exogenous variables (independent variables) on endogenous variables (dependent variables) done using SEM (structural equation model). The SEM analysis was carried out through 2 steps: Outer Model Test that includes: (1) data normality test, (2) validity test to determine the accuracy of measurements; (3) construct reliability test and (4) construct and structural model suitability test and the Inner Model Test for hypothesis testing (Ajayi 2021). Hypothesis of this study were tested in t-test statistics (Gazali 2008; Ginting 2009), with a critical value of p value 0.05 or $t = 1.96$.

4. Result & Conclusion

The results of the descriptive analysis showed that (1) the respondents consisted of 66.3% male and 33.7% female, with 47.8% aged between 15-25 years, 35.2% between 26-45 years, and the rest were over 45 years (17%). Their average income was less than 5 million IDR (47.8%), 6-10 million IDR (24.7%), 11-15 million IDR (11.8%), 16-20 IDR (4.7%) and the rest above 20 million IDR (11%), (2) respondents were active smokers (47.8%), smoking cessation (15.3%) and the remaining 36.9% were passive smokers.

Descriptive analysis was also carried out to identify factors regarding demography (x1), economy (x2), socio-cultural (x3), health (x4), government political will (x5), communication strategy (x6) and willingness to reduce the harm of smoking (Y). This analysis was conducted to see respondents' responses to issues in each variable, by categorizing the score of the respondent's response (Gazali 2008) as follows.

$$P = \frac{X_{maks} - X_{min}}{b}$$

where:

P	= Class Interval
X_{maks}	= Maximum score
X_{min}	= Minimum score
b	= Number of class

Referring to the results of the class interval measurement, the categorization of the results of the measurement towards the average scores is presented in Table 1.

Table 1. Categorization of the Descriptive Statistics Measurement Outcomes

Nilai Rata-rata Hitung	Kategori Penilaian
1 – 1,80	Very Poor
1,81 – 2,60	Poor
2,61 – 3,40	Aacceptable
3,41 – 4,20	Good
4,21 – 5,00	Very Good

The average scores of respondents' factors related to demography (x1), economy (x2), socio-cultural (x3), health (x4), government political will (x5), communication strategy (x6) and awareness to reduce the dangers of smoking (y) are presented in Table 2 as follows.

Table 2. The average scores of respondents' demographic, economic, socio-cultural, health, political will and performance factors

No	Variable	Mean	Score
1	Demographics (x1)	3.67	Good
2	Socio and Cultural (x2)	3.74	Good
3	Economy (x3)	3.39	Acceptable
4	Health (x4)	4.36	Very Good
5	Government Political will (x5)	4.13	Good
6	Communication strategy	4.26	Good
7	Awareness to reduce the dangers of smoking (y)	4.19	Good

The inferential analysis using SEM started with the tests of data normality, validity, construct reliability, and model fit tests. The results show that (a) the value of the normality test results is p-value 0.00 (<0.05) that the data were considered normally distributed (Gazali 2008; Ginting 2009). The loading factor score in the validity test for all questions exceeded > 0.50, hence all items were declared valid (Sugiono 2013) (Ginting 2009). The reliability test resulted in construct validity scores for all indicators greater than 0.7, implying that indicators were declared reliable (Ajayi 2021; Gazali 2008; Sugiono 2013). For the model suitability test of 9 criteria, there were 7 goodness of fit criteria that met the cut off value, showing that the model proposed in this study was regarded feasible (Ginting 2009; Sugiono 2013).

The structural equations resulted from the PLS analysis are as follows.

$$X6 = 0.20 * X2 + 0.11 * X3 + 0.37 * X4 - 0.027 * X1 + 0.36 * X5, \text{ Errorvar.} = 0.29 \dots\dots\dots(1)$$

$$R^2 = 0.71$$

$$Y = 0.040 * X2 - 0.11 * X3 + 0.42 * X4 + 0.41 * X6 - 0.055 * X1 + 0.20 * X5, \text{ Errorvar.} = 0.26 \dots(2)$$

$$R^2 = 0.74$$

Hypothesis testing shall be conducted to measure the significance of the Structural Equation Modeling outcome. If the |t-value| greater than 1.96 or probability value < level of significance (alpha = 5% or 0.05), independent variable of this study has significant influence on the dependent variable. The measurement done in this study is illustrated as follows.

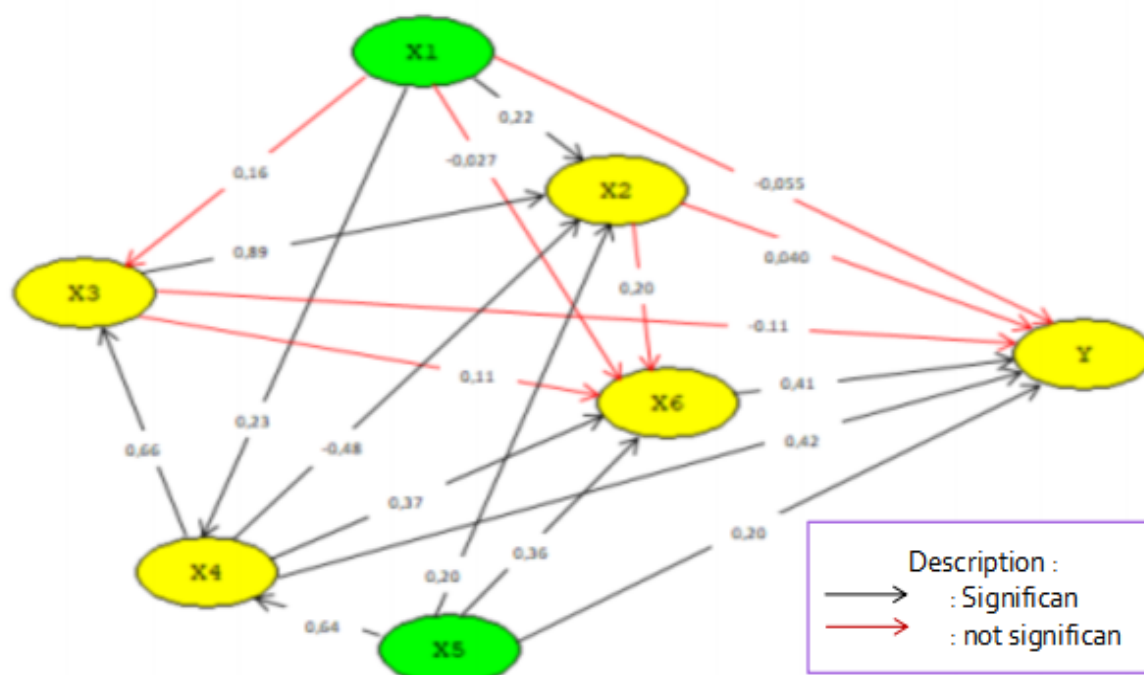


Figure 2. Structural model hypothesis testing

The demographic variable (x1) shows an average value of 3.67 (good), thereby age is a variable that affects respondents' willingness to reduce the dangers of smoking. There are several indicators in this age variable, with the highest average value (4.12) obtained by the item about the need for adjustment of the content in the campaign based on age. On the other hand, the lowest value is found in the item stating that millennial smokers are more likely to reduce the harm of smoking than older generations with an average score of 3.32 (good). This value shows that the responses toward smoking differ across generations. The socio-cultural variable (x2) shows an average value is 3.39 (Good enough), implying that respondents found social and religious factors influence the smoking habits. In certain communities, people have strong obedient to religious leaders that they would do as taught. When religious leaders prohibit them from smoking, people will simply stop smoking.

In Indonesia, smoking habit emerges from the family, and it is even commonly encouraged in traditional ceremonies or cultural events. The socio-cultural variable (X2) includes several indicators, with the highest average score of 3.94 obtained by the item stating that the interaction with peers and community influences ones' smoking habit. Meanwhile, the lowest average score of 3.78 is found in the statement "Smoking is a part of family life for generations". Therefore, interactions with peers are good at work, at school/college; and other places have a considerable impact on smoking habits.

The economic variable (x3) showed an average score of 3.74 (good), indicating that the majority of respondents take economic factors as the consideration regarding their smoking habit. This finding is confirmed by the responses in the item stating that smoking can increase expenses and the family's economic burden with an average score of 4.32. Respondents are aware that purchasing cigarettes is costly. This economic factor can be an effective approach to encourage smokers to stop smoking, especially among those who earn less than IDR 5 million/month since in this group, the money spent for cigarette makes up between 17-20% of their income (Fauzia et al. 2020; Kholil et al. 2021). Most respondents do not find smoking

affecting their work performance as shown by an average score of 3.17 for the statement "Smoking habits reduce one's performance at work" the average was 3.17 (Fair).

In the Health variable (x4), an average score of 4.36 (very good) is gained, showing strong agreement among respondents that health factor is the main consideration in relation to smoking. They also agreed with the statement "Smoking can affect the health of families and those around them" with an average score of 4.47, and also in the statement "Maintaining family health is more important than fulfilling smoking desires" with an average score of 4.4 (Good). Most of the respondents agreed that health, especially the health of their children, wife and parents, should be prioritized. They are aware of the costly health treatment that they should pay for their smoking habit as explained by (Health et al. 2015; Sandford 2003b; Singh and Kathiresan 2015).

Meanwhile, the government's political will (x5) and communication strategy (x6) obtain average scores of 4.36 (very good) and 4.13 (good) respectively, meaning that policies and the role of government are central in reducing the impacts of smoking. The government can design a policy to control the distribution and advertising of cigarettes, both directly and indirectly. For the communication strategy (x6), an average score 4.26 of shows that most respondents agree to the need for proper communication strategy to be adjusted to age, education, socio-cultural and economic background of smokers. In line with this finding, some experts also highlight the need for effective communication strategy for more effective campaign to change smokers' smoking habit (Frandsen and Johansen 2017a, 2017b). An effective communication strategy is reflected on the willingness to reduce the impacts of smoking (y). The average score of respondents' opinion on awareness of the impacts of smoking shows an average score of 4.19 (good), implying that that smokers are actually aware and willing to reduce the impacts of smoking, yet they do not know how proceed with it.

The inferential analysis using SEM in equation (1) shows the greatest contribution of health on the communication strategy (x4: 37%); government political will (x5: 36%); and economic aspects (x2 : 20%). In order to build an effective communication strategy, the narrative should contain these three factors. Conrad (2011) also found similar results. Health is a top priority because all smokers are aware that smoking can impact their health, and medical treatment for smoking-related diseases is costly (Kerber et al. 2020; Kholil et al. 2021). In equation (2), the proposed model shows that health factors (x4), government political will (x5) and communication strategies (X6) affect smokers' awareness regarding the impacts of smoking. Those three variables are the determining factors in raising smokers' awareness.

Figure 2 shows that Demographic (X1), Economic (X2) and Socio-Cultural (X3) variables do not directly affect smokers' awareness of the need to lower the impacts of smoking. However, the influence grows stronger through the intervention of communication strategy (X6). Hence, efforts to reduce the impacts of smoking will be effective if the messages conveyed are relevant to the aspects of health, and the regulations are made based on effective communication strategies to fit smokers' characteristics (age, economy and demographics). Health (X4), government's Political Will (X5) and Communication Strategy (X6) have both direct and indirect significant effect on the awareness to reduce the impacts of smoking.

References

- Abudabbous, Nowara. (2022). "Advantages and Disadvantages of Social Media and Its Effects on Young Learners." *SSRN Electronic Journal*. doi:10.2139/ssrn.4002626
- Achadi, Anhari. (2008). "Regulasi Pengendalian Masalah Rokok Di Indonesia." *Kesmas: National Public Health Journal* 2(4):161. doi:10.21109/kesmas.v2i4.259
- Adam, A. M. (2020). "Determining Sample Size in Survey Research." *Scientific Reserach and Repotrs* 1(2):9597.
- Ajayi, L. B; Abedo Adeyinka Taoheed. (2021). "Structura Equastion Model." *American Joiurnal of Humanities and Social Sciences Research* 5(7):11–19.
- Baraja, Fuad. (2014). *Two Thumbs Up*. Vol. 2. 1st ed. Yogyakarta: Pro-U Media.
- Burza, E. N;R. Wasserman;J. E. Drehmer;B. H. Walters;M. Luo;D. Ossip;J. P. Winickoff. (2021). "Spontaneous Smoking Cassetion in Parents." *Jurnal of Smoking Cessation* 28–35.
- Chezhan, Cheangaivendan, Shruti Murthy, Satish Prasad, Jyoti Bala Kasav, Surapaneni Krishna Mohan, Sangeeta Sharma, Awnish Kumar Singh, and Ashish Joshi. (2015). "Exploring Factors That Influence Smoking Initiation and Cessation among Current Smokers." *Journal of Clinical and Diagnostic Research* 9(5):LC08-LC12. doi:10.7860/JCDR/2015/12047.5917
- Chrisnatalia, R. G., dan D. R. Rahadi. (2020). "Komunikasi Digital Pada Pembelajaran Secara Daring Dimasa Pandemi Covid 19." *Bonanza : Manajemen Bisnis* 1(2):55–65.
- Conrad, C; Poole M. S. (2011). "Strategic Organizational Communication: In Global Economy." *ResearchGate* 4(2).
- Denning, p. (2001). "Strategies for Implementation of Harm Reduction in Treatment Setting." *Psychoactive Drug* 33(1):23–26.
- Drovandi, A. (2019). "Do Health Warnings on Cigarette Stickers Dissuade Smokers and Non Smokers?, A Focus Group and Interview Study of Australian University Students Psychology Research and Behaviour Management, Jamescock University Australia." March 5.
- Fauzia, Hana, Afifah Nada Kamilah, Fizri Nur Azizah, Muhammad Rayhan Devan Riza, Aditya Maulana Zaqi, and Estro Dariatno Sihaloho. (2020). "Hubungan Kebiasaan Merokok Masyarakat Dengan Pengeluaran Kesehatan Individu Di Indonesia: Analisis Survei Kehidupan Keluarga Indonesia 2014/2015." *ARKESMAS (Arsip Kesehatan Masyarakat)* 5(2):17–27. doi:10.22236/arkesmas.v5i2.5263
- Frandsen, Finn, and Winni Johansen. (2017). "Strategic Communication." Pp. 1–9 in *The International Encyclopedia of Organizational Communication*. Wiley.

- Gazali, Imam. (2008). *SEM Metode Alternatif Dengan PLS*. Vol. 1. 3rd ed. Semarang: Badan Penerbit UNDIP.
- Ginting, Dahlia Br. (2009). *STRUCTURAL EQUATION MODEL (SEM)*. Vol. 8.
- James, E. (2001). "Organization Research: Determining Sample Size in Survey Research." *Business, Education* 1–15.
- Kerber, Amie, Tam Donnelly, and Aniela Dela Cruz. (2020). "Harm Reduction: A Concept Analysis." *Journal of Mental Health and Addiction Nursing* 4(1):e14–25. doi:10.22374/jmhan.v4i1.39.
- Kesehatan, Jurnal, Yashinta Octavian, Gita Setyanda, Delmi Sulastri, and Yuniar Lestari. (2015). *Hubungan Merokok Dengan Kejadian Hipertensi Pada Laki-Laki Usia 35-65 Tahun Di Kota Padang*. Vol. 4.
- Kholil, ., Hifni Alifahmi, and Ariyo Bimmo. (2021). "Tobacco Harm Reduction Model Using SAST and ECM." *Journal of Scientific Research and Reports* 62–69. doi:10.9734/jsrr/2021/v27i1030450
- Kontan.com. (2021). "Produksi Rokok Tahun 2020 Capai 524 Miliar Batang."
- Kompas.com. (2022). "Produksi Rokok Naik Menjadi 177,6 Miliar Batang Hingga Juli 2022, Didominasi Oleh SKT."
- Kurniasih, Erwin. (2021). "Analisis Faktor Yang Mempengaruhi Proses Berhenti Merokok Pada Wanita Mantan Pecandu Rokok Di Kabupaten Ngawi." *JPKM: Jurnal Profesi Kesehatan Masyarakat* 2(1):23–29. doi:10.47575/jpkm.v2i1.205
- Mancini, Michael A., Donald M. Linhorst, Francie Broderick, and Scott Bayliff. (2008). "Challenges to Implementing the Harm Reduction Approach." *Journal of Social Work Practice in the Addictions* 8(3):380–408. doi:10.1080/15332560802224576
- Mohammadnezhad, Masoud, and Mondha Kengganpanich. (2021). "Factors Affecting Smoking Initiation and Cessation among Adult Smokers in Fiji: A Qualitative Study." *Tobacco Induced Diseases* 19(12 December). doi:10.18332/tid/143027
- Notanubun, I. D. (2016). "Persepsi Mahasiswa Dan Karyawan FK UII Terhadap Peringatan Bahaya Rokok Bergambar Pada Kemasan Rokok." March 6.
- Patel, ApexaB, AdvaitaB Patel, and BaldevV Patel. (2016). "Methods of Smoking Cessation." *The Journal of National Accreditation Board for Hospitals & Healthcare Providers* 3(1):1. doi:10.4103/2319-1880.187747
- Purwasito, Andrik. 2017. *ANALISIS PESAN MESSAGE ANALYSIS*. Vol. 9.
- Putri, Dian Widya, and Stephani Raihana Hamdan. (2015). *Instrumen Pengukuran Faktor Kontrol Perilaku Merokok Pada Anak Sekolah Dasar Identity Threat in People with Disabilities View Project*.

Raghu, Srikanti, Modini Venkata Rao, Surya Kiran Pulivarthi, and Juvva Kishan Srikanth. (2015). "AWARENESS OF HARMFUL EFFECTS OF SMOKING AMONG SMOKERS." *Journal of Evolution of Medical and Dental Sciences* 4(80):13937–42. doi:10.14260/jemds/2015/1985

Rochayati, Ati Siti, Eyet Hidayat, Staf Pengajar, Keperawatan Komunitas, Keperawatan Jiwa,) Program, Studi Keperawatan, Cirebon Politeknik, and Kesehatan Kemenkes Tasikmalaya. (2015). *FAKTOR-FAKTOR YANG MEMPENGARUHI PERILAKU MEROKOK REMAJA DI SEKOLAH MENENGAH KEJURUAN KABUPATEN KUNINGAN*. Vol. 10.

Sandford, Amanda. (2003). "INVITED REVIEW SERIES: TOBACCO AND LUNG HEALTH Government Action to Reduce Smoking." *Respirology* 8:7–16. doi:10.1046/j.1323-7799.2002.00436.x

Singh, Chinnappan Ravinder, and Kandasamy Kathiresan. (2015). *Effect of Cigarette Smoking on Human Health and Promising Remedy by Mangroves Asian Pacific Journal of Tropical Biomedicine*. Vol. 5.

Sugiono. (2013). *Metode Penelitian Kuantitatif, Kualitatif Dan R&D*. Vol. 2. 3rd ed. Bandung: CV Alfabeta.

Vineis, P. (2008). "Smoking and Impact on Health." Pp. 182–86 in *European Respiratory Review*. Vol. 17.

***The Design of Educational Board Game “Food Chain: Predator of the Food Chain”
for Developing Academic Achievement on Ecosystem***

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Abstract

This research has two primary objectives: 1) to develop an educational board game focused on food chains “Food Chain: Predator of the Food Chain” with the purpose of enhancing ecoliteracy, and 2) to investigate the effects of utilizing a food chain educational board game to enhance students' ecoliteracy and learning skills. The research instruments in this study consisted of 1) the educational board game “Food Chain: Predator of the Food Chain”. 2) an assessment of academic achievement 3) a rating scale satisfaction survey. The research outcomes indicate that 1) students' knowledge levels post-engagement with the game were significantly higher than pre-engagement levels, with statistical significance at the 0.05 level, and 2) overall satisfaction reflected that a high level of satisfaction.

Keywords: Educational Board Game, Game-Based Learning, Food Chain, Ecoliteracy

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Introduction

In the modern educational landscape, fostering ecoliteracy—the understanding of ecological systems and the interrelationships among living organisms—is paramount (Orr, 2004). As environmental issues become increasingly complex and pressing, it is crucial to equip students with the knowledge and skills necessary to comprehend and address these challenges (Sterling, 2001). One innovative approach to enhancing ecoliteracy is through the use of educational board games, which can provide an engaging and interactive learning experience (Gee, 2003). This research aims to contribute to this endeavor by achieving two primary objectives: developing an educational board game focused on food chains, "Food Chain: Predator of the Food Chain," aimed at enhancing ecoliteracy; and investigating the effects of utilizing this board game on students' ecoliteracy and learning skills.

The study employed a multi-faceted research methodology, incorporating the development and implementation of the board game, assessment of academic achievement, and measurement of student satisfaction (Brown, 2010). The findings from this research provided valuable insights into the effectiveness of educational board games as a pedagogical tool, revealing significant improvements in students' knowledge and high levels of satisfaction with the learning experience. Specifically, the results indicated that students' knowledge levels post-engagement with the game were significantly higher than pre-engagement levels, with statistical significance at the 0.05 level, and overall satisfaction levels were high. These outcomes underscored the potential of interactive learning tools in enhancing educational outcomes and fostering a deeper understanding of ecological concepts among students (Prensky, 2001).

Research Objectives

This study aims to achieve two primary objectives:

1. To develop an Educational Board Game: Designing and creating an educational board game titled "Food Chain: Predator of the Food Chain" with the primary purpose of enhancing ecoliteracy among students. This objective focuses on the creation of a game that effectively teaches the concepts of food chains and ecological relationships in an engaging and interactive manner.
2. To investigate the Educational Board Game's Effectiveness: Assessing the effects of utilizing the food chain educational board game on students' ecoliteracy and learning skills. This involves assessing the impact of the game on students' knowledge levels, measuring academic achievement before and after the game intervention, and evaluating students' satisfaction with the learning experience.

Methodology

Sample

The sample group of this study consists of one classroom of 17 elementary school students in Thailand.

The Research Tools

The research instruments in this study consisted of:

- 1) The educational board game "Food Chain: Predator of the Food Chain" to enhance ecoliteracy,
- 2) An assessment of academic achievement, and

3) A rating scale satisfaction survey.

The research methodology consisted of three main components.

1. Development of the Board Game

The board game "Food Chain: Predator of the Food Chain" was designed to teach students about food chains and ecological relationships through an engaging and interactive format. The game includes various elements such as predator-prey interactions, energy flow, and the balance of ecosystems.

Scenario: Players take on the role of predators in a food chain, both on land and in the sea. The player who can hunt the most food will be the winner of this game.

Playing time: 20-30 minutes

Age: 7 years and up

Number of players: 2-8

Subject: Science

Content: Food chain



Figure 1. Example Land ecosystem cards

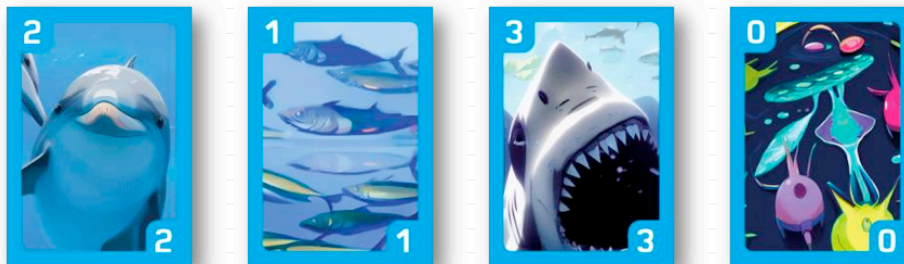


Figure 2. Example Marin Ecosystem cards



Figure 3. Examples of boards: (a) Land food chain board; (b) Marine food chain board

2. Assessment of Academic Achievement

Students' understanding of food chains was assessed through pre-test and post-test evaluations. The tests measured the students' knowledge before and after engaging with the board game to determine any significant improvements.

3. Satisfaction Survey

A survey was administered to assess students' satisfaction with the board game as a learning tool. The survey measured various aspects of the learning experience, including engagement, enjoyment, and perceived educational value.

Results and Discussion

Academic Achievement in Understanding Food Chains

The study evaluated students' understanding of food chains before and after engaging with the "Food Chain: Predator of the Food Chain" board game. The results are detailed in Table 1.

Table 1: Comparison of Pre-Test and Post-Test Scores

Test	N	Mean	S.D.	t	Sig
Pre-Test	17	7.00	1.84	20.969	.000**
Post-Test	17	12.41	1.94		

Note: ** indicates significance at the .05 level

From Table 1, comparing the pre-test and post-test achievement on understanding the food chain, it was found that the learning achievement after the instructional activity using the Food Chain board game was significantly higher than before the instruction at the 0.05 level of statistical significance.

Characteristics of Learning Enthusiasm

The study also assessed students' learning enthusiasm using observation metrics, as shown in Table 2.

Table 2: Learning Enthusiasm Characteristics

Learning Characteristic	Mean	S.D.	Interpretation
Attention in class	2.49	0.22	High
Diligence and effort in learning	2.53	0.19	High
Interest in participating in learning activities	2.62	0.19	High
Appropriately researching additional knowledge	2.48	0.27	High
Recording, analyzing, and summarizing knowledge	2.46	0.27	High
Sharing and applying knowledge in daily life	2.54	0.28	High
Overall	2.52	0.24	High

According to Table 2, overall learning enthusiasm was high (mean = 2.52, S.D. = 0.24). Students showed the highest interest in participating in class activities (mean = 2.62, S.D. = 0.19), followed by sharing and applying knowledge in daily life (mean = 2.54, S.D. = 0.28), and diligence and effort in learning (mean = 2.53, S.D. = 0.19).

The findings indicated that the educational board game "Food Chain: Predator of the Food Chain" significantly enhanced students' understanding of food chains. The improvement in post-test scores compared to pre-test scores demonstrates the effectiveness of the board game as a learning tool. The statistical significance of these results ($p < .05$) further supported this conclusion.

Moreover, the assessment of learning enthusiasm revealed that the board game positively influenced students' engagement and interest in learning. The high levels of attention, diligence, and participation suggested that the interactive nature of the game fosters a conducive learning environment. This aligned with previous research indicating that game-based learning can increase student motivation and engagement (Gee, 2003; Prensky, 2001).

Conclusion

In conclusion, the study highlights the potential of educational board games to enhance both academic achievement and learning enthusiasm. The "Food Chain: Predator of the Food Chain" board game proved to be an effective tool in improving students' ecoliteracy and overall engagement in learning. Future research could explore the long-term effects of such educational tools and their applicability in other subject areas.

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References

- Brown, P. C. (2010). *Make It Stick: The Science of Successful Learning*. Harvard University Press.
- Gee, J. P. (2003). *What Video Games Have to Teach Us About Learning and Literacy*. Palgrave Macmillan.
- Orr, D. W. (2004). *Earth in Mind: On Education, Environment, and the Human Prospect*. Island Press.
- Prensky, M. (2001). *Digital Game-Based Learning*. McGraw-Hill.
- Sterling, S. (2001). *Sustainable Education: Re-visioning Learning and Change*. Green Books.

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***Emerging Digital Civility for Young Indonesian Netizens:
Make Healthy and Safety Interactions on Social Media***

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Abstract

The phenomenon of shifting citizen interactions from direct to digital interaction is increasing. This shift in interaction certainly affects the quality of human life, especially on issues of civility. This article was prepared to provide ideas on building digital civility among young citizens so that they can interact responsibly on social media and create healthy and safe interactions. This research is fundamental considering that the digital civility index of Indonesian netizens could be higher when interacting on social media. The research method used in this research is qualitative. The research was implemented in students of Buana Perjuangan Karawang University. Even though Indonesia's digital civility index is low, the interview results indicate that Buana Perjuangan Karawang University students understand that it is essential to maintain civility when interacting digitally to create healthy and safe interactions on social media. These results are demonstrated by the efforts that have been made, namely by transforming the values of citizens' courtesy into a digital context through digital citizenship education in society, instilling the values of digital civility in society, and improving citizens' digital civility through community. Researchers also provide suggestions for increasing the digital civility index in Indonesia by implementing digital citizenship education.

Keywords: Citizenship Education, Digital Civility, Digital Citizenship Education, Digital Interaction, Indonesia Young Citizens

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1. Introduction

The concept of civility emerged in Ancient Greece. This concept of civility is ancient, and Plato called it "virtue," which means that humans should not commit crimes. Plato further said that a complete human being is a human being who is subject to the values of truth (Dulles, 1950). Welcoming Plato's statement, Aristotle emphasized that civility is not limited to human thought patterns but refers to the actions of individuals who demonstrate civilized behavior (Lickona, 1999). The thoughts of Plato and Aristotle seem to have influenced other scientists who agree that civilized humans carry out actions that originate from virtuous values (Anscombe, 1958; MacIntyre, 2007). However, there is an exciting statement from Foot, who says that civility is a disposition of the heart, which he interprets as civility originates from human desire (Foot, 1978, 2001). This desire then plays a vital role in humans to do good to humans, animals and the environment. Therefore, humans must cultivate the desire for virtue (Hursthouse, 2001).

Education is the first institution to officially teach the concept of civility to citizens; they call it character education. Horace Mann was the first person to state that character was the primary goal of education. Before teaching about knowledge, every school must teach its students character values (McClellan, 1992). Until the emergence of moral and non-moral values initiated by Lickona, moral values were values that humans must have and carry out in life, such as justice, honesty, and responsibility. Meanwhile, non-moral values are values that are good to do but are not obligatory for someone to do them. Examples of these non-moral values include listening to music, singing or going on holiday (Lickona, 2012).

We can see this transformation in the conception of civility, values or character from the linkage of a person's values to virtues that originate from outside himself (Lewis, 2001; Percy, 2000). Thus, values, morals, and character education emerged due to the development of this dimension of civility. In its development, character education has varied in pedagogy and content, including communitarian, neoclassical and psychological approaches (Hunter, 2000; Lickona & Davidson, 2005). Finally, Lickona created character education by integrating approaches initiated by Aristotle, Kohlberg, Lewis, and Piaget (Lickona, 1999; Olson, 2015).

This concept of civility then developed further along with changes in current patterns of human interaction so that new terms emerged, namely, civility and incivility. According to Callan, civility is a virtue possessed by a person that is visible when he interacts with other people by showing respect for that person (Callan, 2016). On the other hand, incivility is the behavior of a person who does not show virtue, ethics and civility when interacting with other people, thereby threatening other people's human rights (Papacharissi, 2004). This change in the direction of interaction towards digital interaction also impacts the concept of civility and significantly affects human life. This digital interaction is characterised by the absence of verbal communication and physical contact (even limited), so it can lead to interactions that tend to be less civilized than face-to-face (Dutton, 1996; Hill & Hughes, 1999). This phenomenon in digital interactions has become known as digital civility, which is seen as relational civility. Digital civility can be defined as online interactions based on empathy, kindness and respect for others. Three things are essential in expressing civility in digital life: commitment to sustainable and fair dialogue, seeking diverse audiences with shared goals, and horizontal accountability (Beauchere, 2019; Dishon & Ben-Porath, 2018). Therefore, a person must have civilized behavior (not just polite) in every interaction to create interactions

that embody the values of citizen diversity both in direct and digital interactions (Susanto & Budimansyah, 2022).

In Indonesia, the increase in internet and social media users is one of the triggers for the explosion of interaction between Indonesian citizens in the digital world. The Indonesian Internet Providers Association stated that from 2019 to 2020, the number of Internet users in Indonesia reached 196.71 million people. This figure increased by 8.9 percent from 2018, which means that within one year, there were 25 million new internet users in Indonesia (APJII, 2021). One problem arising from the increase in internet users and digital interactions in Indonesia is the digital civility problem. In 2021, the Digital Civility Index (DCI) reports a study on the digital civility of Internet users. The facts from the report show that Indonesia got the lowest points in the Asian region (Microsoft, 2021). The following are the results of a survey conducted by DCI for the Asia Pacific region.

Country	Digital Civility Index	Ranking
Singapore	59	4
Taiwan	61	5
Australia	62	7
Malaysia	63	10
Philippines	66	13
India	68	18
Thailand	69	19
Vietnamese	72	24
Indonesia	76	29

Table 1. Rankings Index: The Digital Civility of Netizens in Asia Pacific

As if to prove the results of the study conducted by Microsoft, Indonesian netizens flocked to comment on and even report on Microsoft's account on Instagram. Then, they invaded the All-England Instagram account. Even the latest was how Indonesian netizens gave negative reviews and comments to the Aare River (Switzerland) on Google Maps because of the disaster involving the family of the Governor of West Java, Indonesia, namely Ridwan Kamil (CNN Indonesia, 2021; Iswara, 2021a, 2021b; Septalisma, 2021). What is the main problem of digital incivility? DCI explained that the digital civility index is measured by several issues often occurring in cyberspace. These problems include being contacted by unknown or unwanted people, fake news, bullying, fraud (both scams and frauds), pornography (sex texting, unwanted sexual attention, sexual solicitation), unpleasant treatment, discrimination, mocking each other, provocative posts, and hate speech. The generations that suffer most from this phenomenon are millennials and Generation Z, while teenagers are the most significant contributors to the decline in digital civility in 2020 (Microsoft, 2021).

Based on the abovementioned problems, this article aims to provide discourse on overcoming and resolving digital civility problems for young Indonesian citizens. This study will theoretically and practically explain the implementation of digital citizenship education to teach young citizens to interact in the digital world with full responsibility, respect and empathy. In this way, a healthy and safe digital ecosystem will be formed.

2. Methodology of Research

This research uses a qualitative approach with a descriptive method. Buana Perjuangan Karawang University, the research locus, is located in Telukjambe Timur District, Karawang Regency, West Java. The research informants are students of Buana Perjuangan University Karawang. Data collection was carried out using interviews, observations, and documentation studies. Then, the data obtained were analyzed until the validity of the results was achieved using data reduction, data classification, and conclusion drawing.

3. Results and Discussions

3.1. Results

Based on the results of interviews with students at Buana Perjuangan Karawang University, Indonesia, it was found that people had contacted them they did not know to the point of harassing them on social media, sending pornographic pictures or pornographic videos via chat on social media, and had been teased (bullied) on social media. They have seen victims of bullying on social media, have seen individuals spreading other people's data, have seen fake news spread and have seen someone defame other people on social media. From the results of the interview, it is clear that there is social media interaction that is unhealthy and unsafe for its users. In this context, Indonesian citizens' low level of digital civility is a crucial point causing insecurity and unhealthy interactions on social media. Even though there are warnings and general guidelines for using social media, bad things still happen when interacting on social media.

3.2. Discussions

The Internet offers freedom of speech and broad and equal interaction. However, there is a need for education to teach young Indonesian citizens how to use the Internet with full responsibility, empathy, and respect. Online platforms allow someone to gain uncontrolled freedom of political expression, which blurs the private and public domains in writing and speech, as well as norms for formally and casually providing opinions (Bennett & Segerberg, 2012; Papacharissi, 2010). So, interactions on this online platform can have a negative impact. Conflicts occur because of digital interactions on social media between citizens in the form of comments in communication that have nuances of mutual criticism, ridicule, accusations and insults with a tone of hatred towards people or groups (Mardianto, 2018; Martellozzo & Jane, 2017). For this reason, real action needs to be taken to create healthy and safe interactions through integrating classroom learning with materials for good internet use.

So, what can be done to improve digital civility? In the Indonesian context, education is carried out to foster students' character, thoughts, and growth and create a life balanced with the world of children (Dewantara, 1962). Education is also an institution that must develop citizens' intelligent behavior and attitudes through habituation and the development of civic virtue and culture (Budimansyah & Suryadi, 2008; Dewey, 1922). More specifically, in Indonesia, citizenship education aims to help people become good and intelligent citizens (Wahab & Sapriya, 2011). So, Citizenship Education is one of the keys to developing the digital civility of Indonesian citizens.

Starting from the concept of citizenship education, there needs to be structural and dimensional changes in citizenship education in the context of developing digital civility.

Therefore, digital-based citizenship education must be planned and implemented consistently and sustainably. Thus, Citizenship Education in Indonesia needs to adopt elements of Digital Citizenship Education. This digital-based citizenship education must be implemented early to encourage young citizens to have physical and digital citizenship skills (Ribble, 2009; Ribble & Bailey, 2007).

Then, how can digital-based citizenship education be seen as an effort to create healthy and safe digital interactions? Digital citizenship education is defined as "the norms of appropriate and responsible online behavior" (Ribble et al., 2004) and "the quality of habits, actions, and consumption patterns that impact the ecology of digital content and communities" (Heick, 2018). So, digital citizenship education can be interpreted as an educational process that teaches people about appropriate and responsible norms in network interactions or attitudes and habits that impact the ecology of digital content and good communities.

According to Ribble, digital citizenship education must be taught to children early (Ribble, 2009) to encourage young citizens to have physical and citizenship skills in the digital world (Ribble & Bailey, 2007). Ribble has also identified nine critical elements for implementing digital citizenship education (Ribble, 2012). The following are the elements of digital.

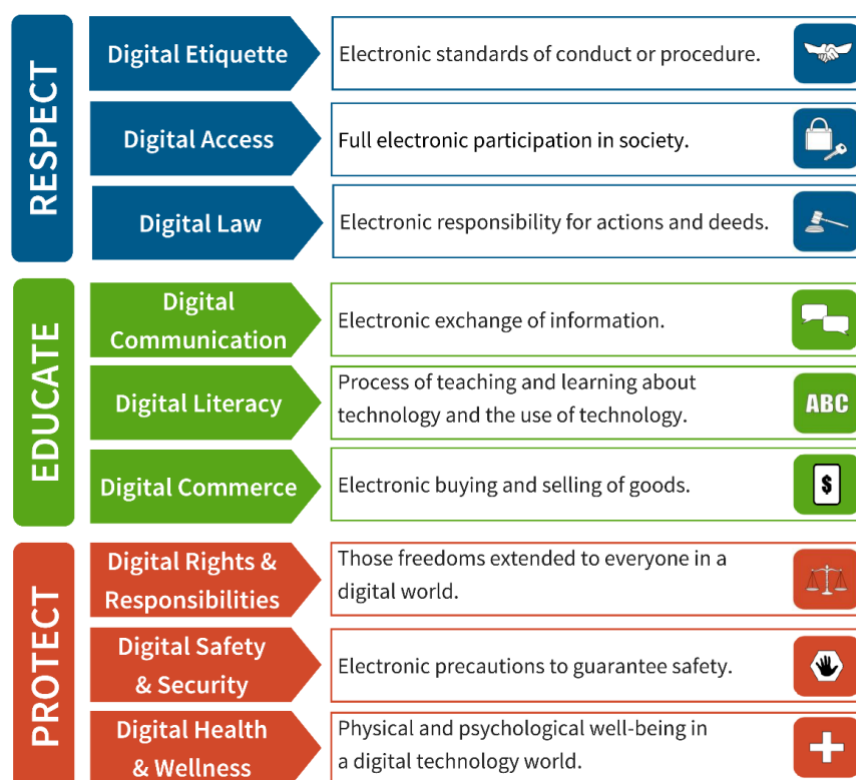


Figure 1. Nine Elements of Digital Citizenship Ribble

The nine elements of digital citizenship education are organized into three domains, namely 1) respect for yourself and others, 2) educate yourself and others, and 3) protect yourself and others (Ribble & Bailey, 2007). The first domain talks about how we must respect ourselves and others. This domain contains digital access, digital etiquette, and digital law. The second domain requires us to educate ourselves and others. This domain includes digital commerce, digital communication and digital literacy. The last domain requires us to protect ourselves

and others when interacting online. This domain contains digital rights and responsibilities, digital health and wellness, and digital security and safety.

So, efforts to create healthy and safe digital interactions require citizens who have interaction competencies in the digital world. Therefore, digital citizenship education is one way the Indonesian government can do this by integrating citizenship education with digital competencies.

4. Conclusion

Forming safe and healthy interactions on social media is not easy, but it is not impossible. Through this research, it can be concluded that to build safe and healthy digital interactions, it is necessary to develop digital competence early in Indonesia's young generation through digital citizenship education. Digital citizenship education offers education to Indonesia's young generation so that Indonesia's young generation can respect themselves and others, educate themselves and others, and protect themselves and others when interacting online. The abilities formed through digital citizenship education are the minimum abilities that every citizen must have to interact responsibly, with empathy and respect when interacting online.

5. Acknowledgement

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References

- Anscombe, G. E. M. (1958). Modern Moral Philosophy. *Philosophy*, 33(124), 1–19. <https://doi.org/10.1017/S0031819100037943>
- APJII. (2021). Penambahan IIX dan Reduksi Belanja Trafik Internasional. Asosiasi Penyelenggara Jasa Internet Indonesia. <https://apjii.or.id/content/read/104/531/BULETIN-APJII-EDISI-85---April-2021>
- Beauchere, J. F. (2019). Encouraging Digital Civility. *Internet and Technology Addiction*, 748–759. <https://doi.org/10.4018/978-1-5225-8900-6.ch042>
- Bennett, W. L., & Segerberg, A. (2012). THE LOGIC OF CONNECTIVE ACTION: Digital media and the personalization of contentious politics. *Information, Communication & Society*, 15(5), 739–768. <https://doi.org/10.1080/1369118X.2012.670661>
- Budimansyah, D., & Suryadi, K. (2008). PKn dan masyarakat multikultural. Program Studi Pendidikan Kewarganegaraan.
- Callan, E. (2016). Education in Safe and Unsafe Spaces. *Philosophy Inquiry in Education*, 24(1), 64–78.
- CNN Indonesia. (2021). Pakar respons Microsoft: Netizen Indonesia mengerikan. CNN Indonesia. <https://www.cnnindonesia.com/teknologi/20210301122720-185-612166/pakar-respons-microsoft-netizen-indonesia-mengerikan>
- Dewantara, K. H. (1962). *Karja I (Pendidikan)*. Pertjetakan Taman Siswa.
- Dewey, J. (1922). *Human Nature and Conduct: An Introduction to Social Psychology*. Modern Library.
- Dishon, G., & Ben-Porath, S. (2018). Don't @ me: rethinking digital civility online and in school. *Learning, Media and Technology*, 43(4), 434–450. <https://doi.org/10.1080/17439884.2018.1498353>
- Dulles, A. R. (1950). Coming home. In J. A. O'Brien (Ed.), *Where I Found Christ*. Country Life Press.
- Dutton, W. H. (1996). Network rules of order: regulating speech in public electronic fora. *Media, Culture & Society*, 18(2), 269–290. <https://doi.org/10.1177/016344396018002006>
- Foot, P. (1978). *Virtues and Vices*. Blackwell.
- Foot, P. (2001). *Natural Goodness*. Oxford University Press.
- Heick, T. (2018). The Definition Of Digital Citizenship. <https://www.teachthought.com/the-future-of-learning/the-definition-of-digital-citizenship/>

- Hill, K. A., & Hughes, J. E. (1999). *Cyberpolitics: Citizen activism in the age of the Internet*. Rowman & Littlefield Publishers, Inc.
- Hunter, J. D. (2000). *The Death of Character: Moral Education in an Age Without Good and Evil*. Basic Books.
- Hursthouse, R. (2001). *On Virtue Ethics*. Oxford University Press.
<https://doi.org/10.1093/0199247994.001.0001>
- Iswara, A. J. (2021a, March 18). Akun BWF Juga Diserbu Netizen Luar Negeri Usai Tim Indonesia Dipaksa Mundur dari All England. Kompas.Com.
<https://www.kompas.com/global/read/2021/03/18/195622470/akun-bwf-juga-diserbu-netizen-luar-negeri-usai-tim-indonesia-dipaksa?page=all>
- Iswara, A. J. (2021b, April 16). 6 Bukti Netizen Indonesia Tidak Sopan se-Asia Tenggara, Akun Luar pun Diserang. Kompas.Com.
<https://www.kompas.com/global/read/2021/04/14/100430270/6-bukti-netizen-indonesia-tidak-sopan-se-asia-tenggara-akun-luar-pun?page=all>
- Lewis, C. S. (2001). *The Abolition of Man*. HarperOne.
- Lickona, T. (1999). Character Education: The Cultivation of Virtue. In C. M. Reigeluth (Ed.), *Instructional-design theories and models (Vol. 2)*. Erlbaum Associates.
- Lickona, T. (2012). *Educating For Character Mendidik untuk membentuk karakter (Bagaimana sekolah dapat mengajarkan sikap hormat dan tanggung jawab)*. Bumi Aksara.
- Lickona, T., & Davidson, M. (2005). *Smart and Good High Schools: Integrating Excellence and Ethics for Success in School, Work, and Beyond*. Center for the 4th and 5th Rs and Character Education Partnership.
- MacIntyre, A. (2007). *After Virtue: A Study in Moral Theory (3rd ed.)*. University of Notre Dame Press.
- Mardianto. (2018). Peran Pendidikan Digital Citizenship Untuk Pencegahan Perilaku Ujaran Kebencian Siswa di Media Sosial. *Membangun Manusia Indonesia Yang Holistik Dalam Kebhinekaan*, 523–538.
- Martellozzo, E., & Jane, E. A. (2017). *Cybercrime and Its Victims*. Routledge.
<https://doi.org/https://doi.org/10.4324/9781315637198>
- McClellan, B. E. (1992). *Schools and the Shaping of Character: Moral Education in America, 1607-Present*. ERIC Clearinghouse for Social Studies/Social Science Education.
- Microsoft. (2021). *Digital Civility Research: Civility, Safety, and Interactions Online*.
https://aka.ms/Digital_Civility_Year_Five
- Olson, R. S. (2015). *Character Education*. Oxford Bibliography.
<https://doi.org/10.1093/OBO/9780199756810-0052>

- Papacharissi, Z. (2004). Democracy online: civility, politeness, and the democratic potential of online political discussion groups. *New Media & Society*, 6(2), 259–283. <https://doi.org/10.1177/1461444804041444>
- Papacharissi, Z. (2010). *A Private Sphere: Democracy in a Digital Age*. Polity.
- Percy, W. (2000). *Lost in the Cosmos: The Last Self-Help Book*. Picador.
- Ribble, M. (2009). Passport to Digital Citizenship: Journey toward Appropriate Technology Use at School and at Home. *Learning & Leading with Technology*, 36(4), 14–17.
- Ribble, M. (2012). Digital Citizenship for Educational Change. *Kappa Delta Pi Record*, 48(4), 148–151. <https://doi.org/10.1080/00228958.2012.734015>
- Ribble, M., & Bailey, G. (2007). *Digital Citizenship in Schools*. ISTE.
- Ribble, M., Bailey, G., & Ross, T. (2004). Digital Citizenship: Addressing Appropriate Technology Behavior. *Learning & Leading with Technology*, 32(1), 6.
- Septalisma, B. (2021, February 26). Sebut Netizen RI Paling Tidak Sopan, Akun Microsoft Diserang. CNN Indonesia. <https://www.cnnindonesia.com/teknologi/20210226140821-192-611309/sebut-netizen-ri-paling-tidak-sopan-akun-microsoft-diserang>
- Susanto, E., & Budimansyah, D. (2022). Membangun keadaban digital warganet Indonesia dalam perspektif kewarganegaraan digital. *Jurnal Citizenship: Media Publikasi Pendidikan Pancasila Dan Kewarganegaraan*, 5(1). <https://doi.org/10.12928/citizenship.v5i1.23347>
- Wahab, A. A., & Sapriya. (2011). *Teori dan landasan pendidikan kewarganegaraan*. Alfabeta.

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***Research Trend of Vigotsky Theory in Children's Education From 2013 to 2023:
A Bibliometric Review and Analysis***

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Abstract

This article was written to analyze the research trend of Vigotsky theory in Children's Education from 2013 to 2023. The method used is bibliometric analysis, assisted by the VOSviewer application. The object of study is the title and abstract of 29 scientific articles from international journals indexed by journal from 200 documents in the last ten years. The data was obtained using the keywords "Creative imagination, vygotsky, creative thinking, and critical thinking. " The results show the network, overlay, and density between parts. The visualization results show: The creative imagination contained in Vygotsky's theory is developed through creative thinking abilities and critical thinking abilities in children's learning processes. Therefore, based on the results of this bibliometric analysis, it provides an overview and opportunities for carrying out future research.

Keywords: Bibliometrics, Creative Imagination, Children Education, Creative Thinking, Critical Thinking

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Introduction

Student development in elementary schools in all subjects focuses on thinking skills. All students at all educational levels possess the ability to think. The stimulus from the environment given to students will differentiate their ability to think (Kidd, F, 1983). Creative thinking and critical thinking are thinking skills that are often studied and developed to optimize thinking abilities. One example of children having good cognitive intelligence is their ability to think.

Imagination is a natural talent possessed by every human being, including elementary school children (Niland, 2023). The initial source of thinking skills and ideas begins with the formation of questions. This seemingly simple question from an elementary school student is a problem that requires an answer or solution. Each child with different thinking and cognitive abilities will produce a variety of different answers when faced with a problem. Every child has the same right to express opinions, because of their different creative potential.

Literature Review

Creativity is one of the competencies that students must have in the 21st century learning process. Research on creativity in the world of education continues to develop in various, more detailed aspects. Creative thinking and creative activities are different things, even though they originate from the same initial potential, namely imagination. History finds Vygotsky as an educational figure who was also a psychologist who created many theories about the learning process, development and creativity.

Imagination and creativity go hand in hand to produce an idea. Imagination without creativity will not produce a work (Lubis, 2022). Creativity without the encouragement of imagination will produce ordinary works without high levels of creativity and differentiation. Elementary school age children have great potential for exploring their imagination (Fazli et al., 2019). Awareness of the importance of understanding thinking will provide greater space for the growth of children's imaginative potential. The doctrinal style is not recommended for the development of children's imagination. There needs to be freedom to foster imagination so that more diverse ideas emerge (Díaz-lefevre, 2006; Fleming, 2015; Supriatna, 2019). Soaring beyond the mere urge to control one's existing inner and outer world, individuals high in openness or intelligence can go further by developing their own creative ideas into something tangible, whether it be a work of art or a scientific discovery. This is the cause of the relationship between openness and creativity (Oleynick et al., 2014; Thrash et al., 2010).

Method

The complete data used for this work is based on data collection in publications published and indexed by Google Scholar indexed scientific journals. Google Scholar was chosen for this work because it is open source. Publish or perish, a reference management application, is used to obtain research data for the next stage. Publish or Perish software is usually used by researchers to conduct literature reviews on selected topics, while detailed information for software installation, step-by-step steps to obtain data, and library data in Google Scholar have been explained (Effendi et al., 2021).

Research is carried out through the following mechanisms:

- (i) The process of collecting publication data with the help of publish or perish software,
- (ii) Stage of processing article bibliometric data obtained using Microsoft Excel software,
- (iii) Mapping analysis of bibliometric data in elementary school mathematics teacher professional development program publications using the VOSviewer application, and
- (iv) Analysis of computational mapping results.

The article data available on Publish or Perish are publications filtered using the keywords "Professional Development", "Mathematics Learning", and "Elementary Teachers" based on "Journal" as the publication title. The papers used were selected only in the last decades between 2013 to 2023. Papers that have been selected and meet the criteria for this work of analysis are then exported into two file types: research information system (.ris) and comma separated value format (*.csv). The VOSviewer tool can also be used to provide visualization and depict bibliometric map usage trends. Article data imported from the database is then mapped automatically. VOSviewer is used to create variations of results as mapping publications, namely network visualization, density visualization, and network-related overlay visualization (co-citation) between available items.

Results and Discussion

Publication Data Search Results

Based on an article search via Publish or Perish software from the Google Scholar database, 29 works met the criteria and were then collected for research. These papers were obtained in the form of article metadata stating the author's name, article title, year of publication, journal name, publishing institution, number of citations, links, and URL. Table 1 shows some samples of published articles used for this bibliometric study. The samples taken were the 29 best articles with more than 60 citations available in Table 1.

Table 1. Use of Table Captions

No	Writer	Title	Year	Quote
1	E Bodrova , C Germeroth, DJ Leong	Play and self-regulation: lessons from Vygotsky.	2013	405
2	E Bodrova , DJ Leong	Vygotskian and Post-Vygotskian Views on Children's Play.	2015	348
3	S Edwards	Digital play in the early years: A contextual response to the problem of integrating technologies and play-based pedagogies in the early childhood curriculum	2013	244
4	P Hakkarainen, M Bredikyte, K Jakkula, ...	Adult play guidance and children's play development in a narrative play-world	2013	225
5	AS Kier, JS McMullen	Entrepreneurial imaginativeness in new venture ideation	2018	190
6	C Walia	A dynamic definition of creativity	2019	189
7	S Mihardi , MB Harahap , RA Sani	The effect of project based learning model with kwl worksheet on student creative thinking process in physics problems	2013	174
8	N Leggett	Early childhood creativity: Challenging educators in their role to intentionally develop creative thinking in children	2017	173

9	S Marginson , TKA Dang	Vygotsky's sociocultural theory in the context of globalization	2017	173
10	C Kiewra, E Veselack	Playing with Nature: Supporting Preschoolers' Creativity in Natural Outdoor Classrooms.	2016	164
11	J Marsh, L Plowman, D Yamada-Rice, ...	Play and creativity in young children's use of apps	2018	158
12	S Ahmad, AH Ch, A Batool, K Sittar , M Malik	Play and Cognitive Development: Formal Operational Perspective of Piaget's Theory.	2016	154
13	S Broström	A dynamic learning concept in early years' education: A possible way to prevent schoolification	2017	141
14	S Astutik , BK Prahani	The Practicality and Effectiveness of Collaborative Creativity Learning (CCL) Model by Using PhET Simulation to Increase Students' Scientific Creativity.	2018	134
15	S Edwards	Play-based learning and intentional teaching: Forever different?	2017	122
16	F González Rey	The topic of subjectivity in psychology: Contradictions, paths and new alternatives	2017	114
17	S Edwards, A Cutter-Mackenzie	Pedagogical play types: What do they suggest for learning about sustainability in early childhood education?	2013	106
18	L Widiawati , S Joyoatmojo , S Sudiyanto	Higher order thinking skills as effect of problem based learning in the 21st century learning	2018	104
19	F Gonzalez Rey	Advancing the topics of social reality, culture, and subjectivity from a cultural–historical standpoint: Moments, paths, and contradictions.	2016	98
20	MT Bowers, BC Green, F Hemme, ...	Assessing the relationship between youth sport participation settings and creativity in adulthood	2014	86
21	M Hofman	What is an education for sustainable development supposed to achieve—A question of what, how and why	2015	85
22	JR Yarbrough	Adapting Adult Learning Theory to Support Innovative, Advanced, Online Learning--WVMD Model.	2018	82
23	S Sanders	Critical and creative thinkers in mathematics classrooms	2016	81
24	C Nilson, CM Fetherston, A McMurray, ...	Creative arts: An essential element in the teacher's toolkit when developing critical thinking in children	2013	80
25	S Robson	The Analyzing Children's Creative Thinking framework: development of an observation□led approach to identifying and analyzing young children's creative thinking	2014	76
26	A Stetsenko, PCG Ho	The serious joy and the joyful work of play: Children become agentive actors in co-authoring themselves and their world through play	2015	76
28	E Yayuk , AR As'ari	Primary School Students' Creative Thinking Skills in Mathematics Problem Solving.	2020	74
29	NM Siew, CL Chong, BN Lee	Fostering fifth graders' scientific creativity through problem-based learning	2015	70
30	H.G. Conklin	Toward more joyful learning: integrating play into frameworks of middle grades teaching	2014	68

Development of Vygotsky's Theory Research in Elementary School Education

Table 2 describes the development of research in professional development programs in mathematics learning at the elementary level published between 2013 and 2022 on the Google Scholar indexed journal platform. From the data displayed in Table 2, the number of research on mathematics learning professional development programs at the elementary level during this period was 1038 but due to limitations in software results, only 996 data were filtered.

Table 2. Development of Vygotsky's Theory Research in Elementary School Education

Year study	Amount citation
2016	818
2017	1166
2018	1108
2019	224
2020	447
2021	301
2022	107
2023	24
total citations	4195
average citations	524.38

The highest number of citations in this research field was in 2017 with 1166 citations, followed by 1108 in 2018. This data shows a fluctuating trend from 2017 to 2018 before dramatically decreasing with only hundreds of citations in each of the following four years and most recently 24 citation in 2023.

The line graph in Figure 1 clearly depicts the trend.

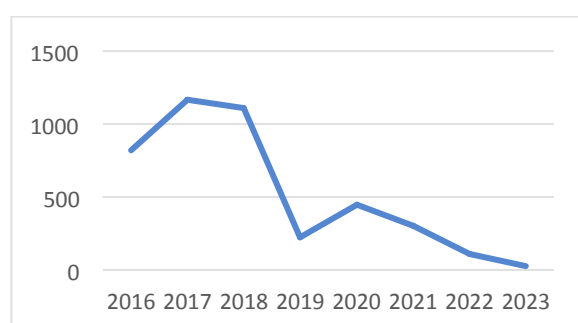


Figure 1. Line chart of the development of research on Vygotsky's theory in elementary school education in the last 10 years

Computational mapping methods were carried out on the data of all articles. VOSviewer is used for computational mapping. Computational mapping showed 69 items found. All items found are related to development of professional development research in mathematics learning at elementary school level in data mapping divided into 7 clusters;

- (i) Cluster 1 has 1 or 2 items such as Creative art, Time, Children's Imagination, image, path, personality trait, emotion, perception, form, process, effect, context.

- (ii) Cluster 2 consists of 10 items such as : lesson, imaginary situation, creative, Vygotskys , goal, new idea, line, new idea, imaginative thinking, design thinking.
- (iii)Class 3 has 8 items which include school, instruction , zone, creativity, hand, product, students imaginative play, perspective.
- (iv)Class 4 includes 11 items, namely imaginary situation, science, impact, Vygotsky's theory, society, cognitive, effectiveness, thinking skills, curiosity, Lev Vygotsky, critical thinking skills.
- (v) Cluster 5 contains 9 items such as reality, basis, component, creative activity, thought, preschool child, preescholl children, human imagination, relations.
- (vi)Cluster 6 has 6 items, namely outcome, review, cognitive development, Piaget, complexity, creative thinking skills.
- (vii)Cluster 7 has 13 items, among others way, creation, aspect, order, opportunity, critical, thinker, article, knowledge, part, paper, something, mathematics.

The relationship between one word and another is shown in each cluster. The diameter of the circle for each term depends on the frequency of appearance of that term (Nandiyanto et al., 2021). The size of the label circle shows a positive correlation with the appearance of the term in the title and abstract (Nandiyanto & Al Husaeni, 2021) which means that the more often the term appears, the larger the size of the label (Al Husaeni & Nandiyanto, 2022). The mapping visualization described in this research consists of 3 parts, namely network visualization (see Figure 2), overlay visualization (see Figure 3), and density visualization (see Figure 4) (Hamidah et al., 2020).

Figure 2 is a network visualization that breaks down the relationships between each term. The relationship of terms to each other is described through an interconnected network. Figure 2 illustrates 7 clusters that are often researched and related to research topics in Vygotsky's theory about children's education and creativity . Figure 3 provides an overview of overlay visualization in professional development program research. Overlay visualization is considered a visualization of the novelty of research on related terms (Hamidah et al., 2020).

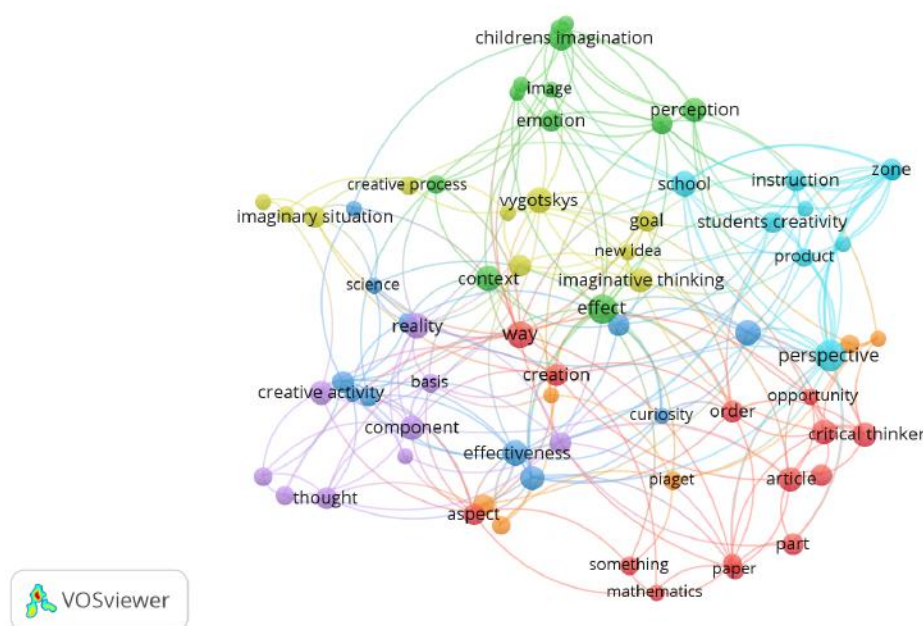


Figure 2. Visualization of Vygotsky's Theory Research Network in Elementary School Children's Education in the Last 10 Years

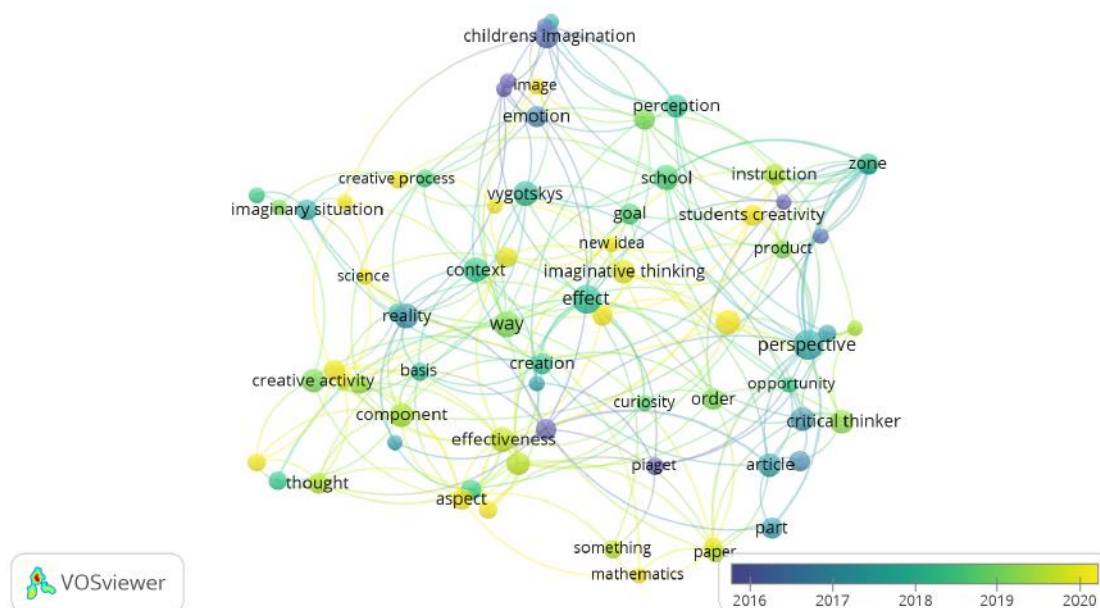


Figure 3. Overlay visualization of Vygotsky's theoretical research on children's education in the last 10 years

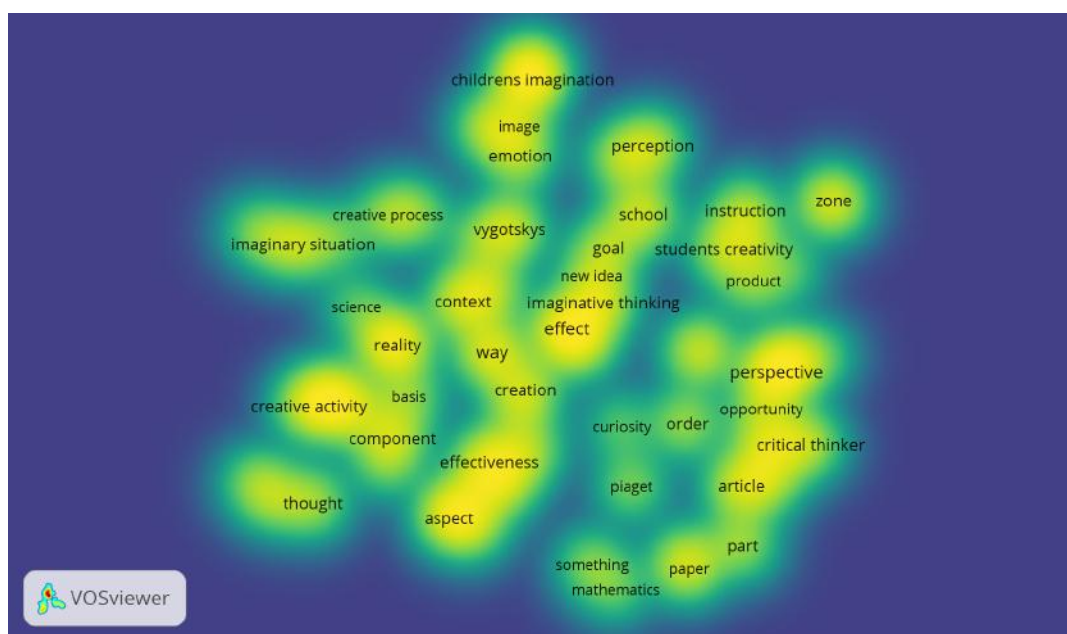


Figure 4. Research Visualization Density of Vygotsky's Theory Research on Children's Education in the Last 10 Years

Figure 4 visualizes density, meaning that the brighter the yellow color and the larger the diameter of the term label circle, the more often the term appears (Schrlau et al., 2016). This means a lot of research on related terms has been done. Conversely, the smaller the number of studies related to the term, the less visible the yellow color is.

Conclusion

This research aims to carry out computational mapping analysis on bibliometric data from scientific works. The publication topic chosen in this research is research trends in Vygotsky's

theory in elementary education . The articles used as sources were obtained from the Google Scholar database using Publish or Perish software. The library data used in this research includes titles and abstracts. 996 relevant articles were found for a decade, from 2013 to 2023. The research results show that Vygotsky's theory on children's education has experienced a decreasing trend in the last five years, after experiencing fluctuations in research from the beginning of the period until 2018. The research results of this study show that there are opportunities for research Using Vygotsky's theory in children's education can be used as an open basis for further in-depth study.

Author Contributions

Mia Zultrianti Sari carried out the mapping and analyzed the contents following directions from Nana Supriatna. Disman as supervisor and assessor provides input and re-examines the results of the analysis that has been carried out. There was a process of guidance and joint discussion and finally all authors agreed on the final version.

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Bibliography

- Al Husaeni, D.F.; and Nandiyanto, A.B.D. (2022). Bibliometric using Vosviewer with Publish or Perish (using google scholar data): From step-bystep processing for users to the practical examples in the analysis of digital learning articles in pre and post Covid-19 pandemic. *ASEAN Journal of Science and Engineering*, 2(1), 19-46.
- Amabile, T.M. (1983). *The Social Psychology of Creativity* (Robert F, Kidd[ed]). Springer-Verlag New York.
- Díaz-lefebvre, R. (2006). *LEARNING FOR UNDERSTANDING : A FACULTY-DRIVEN PARADIGM SHIFT IN LEARNING , IMAGINATIVE*. 135–137.
<https://doi.org/10.1080/10668920500433082>
- Effendi, D. N., Irwandani, Anggraini, W., Jatmiko, A., Rahmayanti, H., Ichsan, I. Z., & Rahman, M. M. (2021). Bibliometric analysis of scientific literacy using VOS viewer: Analysis of science education. *Journal of Physics: Conference Series*, 1796(1).
<https://doi.org/10.1088/1742-6596/1796/1/012096>
- Fazli, M., Saearani, T., Alfarisi, S., Chan, A. H., Azib, N. M., Fazli, M., Saearani, T., Alfarisi, S., Chan, A. H., & Abdullah, Z. (2019). *Improvement of Children ' s Imaginative Abilities by using Props through Creative Movement Activities*. 9(6), 118–124. <https://doi.org/10.6007/IJARBSS/v9-i6/5927>
- Fleming, J., Gibson, R., Anderson, M., Martin, A. J., Fleming, J., Gibson, R., Anderson, M., & Andrew, J. (2015). *Cultivating imaginative thinking : teacher strategies used in high-performing arts education classrooms*. 3577(March 2016).
<https://doi.org/10.1080/0305764X.2015.1064097>
- Hamidah, I.; Sriyono, S.; and Hudha, M.N. (2020). A Bibliometric analysis of Covid-19 research using VOSviewer. *Indonesian Journal of Science and Technology*, 5(2), 209-216.
- Lubis, N. A. A. (2022). Meningkatkan Kreativitas Siswa Sekolah Dasar melalui Karya Seni Rupa Menggambar Imajinatif Nurasyiah Anas Lubis Sekolah Tinggi Agama Islam Hikmatul Fadhillah Medan. *Jurnal Pendidikan Guru Sekolah Dasar*, 3(2), 15–25.
- Nandiyanto, A.B.D., Al Husaeni, D.N., & Al Husaeni, D.F. (2021). A bibliometric analysis of chemical engineering research using vosviewer and its correlation with covid-19 pandemic condition. *Journal of Engineering Science and Technology*, 16(6), 4414-4422.
- Nandiyanto, A.B.D., & Al Husaeni, D.F. (2021). A bibliometric analysis of materials research in Indonesian journal using VOSviewer. *Journal of Engineering Research*, 9(ASSEEE Special Issue), 1-16.
- Niland, A. (2023). *education sciences Picture Books , Imagination and Play : Pathways to Positive Reading Identities for Young Children*.

- Schrlau, M. G., Stevens, R. J., & Schley, S. (2016). Flipping core courses in the undergraduate mechanical engineering curriculum: Heat transfer. *Advances in Engineering Education*, 5(3), 1–27.
- Supriatna, N. (2019). Pengembangan Kreativitas Imajinatif Abad Ke-21 Dalam Pembelajaran Sejarah. *Historia: Jurnal Pendidik Dan Peneliti Sejarah*, 2(2), 73.
<https://doi.org/10.17509/historia.v2i2.16629>

***Psychologically Sound, Academically Round:
Psychological Well-being as a Predictor of Academic Success of College Students***

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Abstract

As the academe transitions back to onsite set-up of teaching and learning, students face not only the challenging nature and amount of course requirements, but also the various educational dynamics including issues on mental health brought upon by the pandemic. Considered as one indicator of an individual's mental health, psychological well-being is associated with relationships, happiness, and academic achievement of students. Adopting a correlational predictive design, the researchers administered the 18-item Ryff Scales of Psychological Well-being to third-year college students who are considered academically successful, with semestral general weighted averages ranging from 1.0 to 1.75. To identify the psychological state of well-being amid the modifications of learning delivery, its six dimensions were analyzed and presented using both descriptive and inferential statistics. The results show that (a) the target respondents have a relatively high level of psychological well-being across six domains, (b) some facets reveal significant correlations with the general weighted averages, and (c) the predictors exhibited relationships, albeit weak, accounting for the 15% of variances in academic success. With the hope to contribute to the holistic development of the students, recommendations to enrich student wellness programs and evaluate academic resources were provided.

Keywords: Psychological Well-being, Academic Success, Mental Health, Student Wellness

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Introduction

Psychological well-being is one of the most considered factors as the basis of the academic success of every student. In research conducted by York et al. (2015), academic success was defined as inclusive of academic achievement, attainment of learning objectives, acquisition of desired skills and competencies, satisfaction, persistence, and post-college performance. Numerous studies that relate psychological well-being with academic achievement have also been conducted in the past few years. Looking into the study conducted by Cooper (2018), psychological well-being is closely related to other terms for positive mental states, such as happiness or satisfaction which can be achieved through being affected by several factors.

In the study conducted by Udhayakumar et al (2018), it has shown that most of the students were identified as having high levels of positive well-being, anxiety, and depressed mood which means that college students are more prone to psychological well-being problems and are vulnerable to mental health problems. Research conducted by Mustafa et al. (2020) found a significant relationship between psychological well-being and academic achievement, indicating that an increased psychological well-being also increases students' academic achievement. Since studies were limited to only identifying the level of psychological well-being and its relationship with students' academic achievement of students, there is a gap in determining which aspect of psychological well-being significantly affects the student's academic success.

With this, the researchers aim to further explore psychological well-being as a predictor of the student's academic success through posing the following questions:

1. What is the level of psychological well-being of students considered to be academically successful?
2. Is there a significant relationship between the six (6) facets of psychological well-being and academic success?
3. Which facet/s of psychological well-being predict/s academic success?

This study focuses on a population composed of students enrolled in the College of Arts and Sciences (CAS), in a private university in Metro Manila for the A.Y. 2022-2023. Examining the curriculum of the various programs in the CAS, it could be observed that the third year has the most major subjects as compared to the lower years and the senior year. Due to the challenging nature and amount of the course subjects at this year level, academic achievement is best measured from the students who received a general weighted average (GWA) of 1.00 to 1.75 during the first semester of the academic year. Other aspects such as emotional, social, economic, and physical well-being of the target respondents were excluded in the context of this study.

Literature Review

The researchers found relations between the current study and the existing published literature. In a study conducted by Alam (2022), results showed that positive psychology is associated with the health, relationships, happiness, and academic achievement of students, which can be interpreted as practicing psychology promotes healthy psychological well-being. Another study conducted by Datu and Lizada (2018) shows that there is a positive association between the state of well-being and students' school engagement. Consequently, Yaghoobi et al. (2019) produced in their study that the positive psychology intervention method had a significant impact on autonomy, environmental mastery, personal development,

positive relationships with others, life purpose, and self-acceptance, which are components of psychological well-being.

A core feature in positive psychology is psychological well-being, which is known to be one of the status indicators of an individual's mental health. The study conducted by Huo (2022), mentioned how psychological well-being is linked to happiness and resilience. Through extensive research, it was discovered that psychological well-being plays a role in the advancement of students in academic performance. In line with this, a study conducted by Cabrera, et.al (2019) shows that college students must have a solid understanding of their psychological well-being and the factors that affect it as this could help them survive in the university setting. It is also highlighted in the paper of McDowall, et. al. (2016), that psychological well-being is a crucial factor for humans to achieve optimal performance. Fully meeting one's life expectations is associated with high levels of overall well-being. Other researchers agree that considering optimal psychological functioning enhances one's quality of life, well-being is seen as a collection of elements that encourage people to work toward achieving their goals (Crous, et al., 2017).

In the study conducted by Charry, et al., (2020), psychological well-being includes a person's subjective, social, and psychological dimensions, as well as health-related actions and routines that give their lives purpose and enable them to reach their full potential. It was also discovered through the study conducted by Mustafa, et al. (2020) which emphasized that the significance of PWB as healthy and prosperous psychological well-being allows students to perform more successfully, which may affect their academic success. Harding, et al. (2019), contributed to this idea when they mentioned that it is important to ensure that students maintain good health and psychological well-being as this helps achieve academic success. This could be understood as healthy psychological well-being, which leads to a more productive performance of students that helps them achieve academic success. In local literature, studies have been conducted addressing the concern of how psychological well-being affects the academic success of learners. According to the study conducted by Tus, et al. (2021), there is a strong connection between psychological health and academic success. This study's findings suggest that most students are self-autonomous, able to uphold strong connections with others, have a distinct sense of purpose and direction in life, and actively pursue ongoing personal growth and development which are the components that make-up psychological well-being.

Throughout the papers mentioned above, psychological well-being has been studied in relation to academic performance. The Ryff Scales of psychological well-being have been used in research to measure the PWB of an individual and relate it to another variable. In a study conducted by Villarosa and Ganotice (2018), the six subscales indicate that the subscales in Ryff Scales are positively correlated with one another. This means that more than one area of psychological well-being could be reflected in an individual. Additionally, the study conducted by Zefi, et al. (2022), discovered through a linear regression analysis that academic success is a powerful indicator of students' psychological health. Results illustrate how academic success is a predictor of pupils' psychological well-being.

Delving into the six subscales included in the Ryff Scales of Psychological Well-Being, each facet is observed to be studied in other papers with the purpose of looking into its relationship with the academic performance of students or academically related studies.

According to Patanapu, et al. (2018), students with high Personal Growth Initiative (PGI) levels as measured using the Personal Growth Initiative Scale-II, learn to adapt to challenging circumstances and work hard to succeed academically. The study demonstrated that students with excellent academic percentages also had high levels of PGI. Another study conducted by Shek, et al., (2018) looked at its relationship with personal well-being [growth] and academic success. The results showed that students who reported higher levels of well-being in terms of positive youth development (PYD) abilities reported higher personal progress and higher overall GPAs. These findings revealed the strong ties between personal traits that promote optimal growth and greater academic success.

As cited by Toyota (2015), people who were comfortable with themselves had a positive outlook on other people. This finding indicated that the difference between one's attitude toward oneself and another was influenced by one's internal sense of self-acceptance. Therefore, there is a relationship between self-acceptance and positive relationships with others. Self-esteem is frequently linked to self-acceptance. In the findings of Arshad, et al., (2015), it is determined that self-esteem and academic achievement in university students have a strong positive correlation. In further investigation, a high level of self-esteem is associated with increased chances of academic success.

Looking into how positive relationships with others affect academic success, a study entitled "Relationship between Friends and Academic Performance" (2022) highlights the significance of peer friendships and academic success for adolescents. It was discovered that friendships have a major influence on CGPA; students who consistently study with friends, support one another during academic issues, and work together to advance their education earn higher CGPAs. Thus, friendship as a positive relationship with others has an impact on academic achievement. Since self-acceptance is related to positive relationships, it can be incurred that self-acceptance could also influence academic performance. In a study conducted by Rydell (2019), the students' capacity to build and sustain suitable connections and interactions with peers can have a vital role in predicting academic success. These findings indicated that friends' responses to students' everyday academic challenges and successes contribute to more general perceptions of peer academic support. Therefore, higher academic success was predicted by perceptions of peer academic support.

Similarly, Buka, P. (2015) highlighted the significance of positive teacher-student relationships in promoting academic success. The results show that students who have good relationships with their professors are less likely to skip class, look more cooperative, and appear more interested in what they are studying which leads to academic success. The presence of positive connections with teachers and the experience of a positive school environment can be markers of academic accomplishment.

In the study conducted by Yu, et al. (2023), the findings revealed that the quality of interpersonal relationships was positively and significantly correlated with academic performance. This was observed through the examination of the three relationship types, wherein it was found that the quality of peer relationships between students was most closely related to academic success. Furthermore, a local literature by Sethi, et al., (2020) found that teachers, parents, and peers contribute to the students' academic success. It shows that the student-teacher relationship had the strongest relationship on students' academic performance, motivation, perception on school climate, and GPA.

The goal of a study conducted by Yukhymenko-Lescroart (2022), was to find out if life purpose orientations (purpose in life) directly and indirectly predicted student academic engagement and burnout through their attitudes toward gratitude. Findings indicated that university students who had a strong feeling of appreciation and a work-focused purpose orientation (purpose in life) reported higher academic engagement and less academic burnout. In addition, the study of Guo, Luo, and Tan (2023), revealed that higher purpose in life (specifically goal orientation) was associated with superior academic performance. The results highlight the key role of grit, which is defined by persistence in effort, goal orientation, and belief in beyond the personal self, to college achievement in a long-term oriented culture.

On a different note, a study about women in midlife's environmental mastery and their educational attainment was conducted by Stafford, Deeg, and Kuh, (2016). In their findings, greater environmental mastery skills were discovered in women with lower educational attainment than in those with higher levels. Women with lower educational levels also demonstrated greater environmental mastery achievements than women with higher education levels. Thus, women in their midlife that possess lower educational attainment have developed better environmental mastery compared to women with higher educational attainment.

In the study conducted by Gunes and Alagozlu (2020), their findings showed that neither the academic success of Blended Learning (BL) students nor that of Asynchronous Distance Learning (ADL) students was significantly correlated with either autonomy or motivation. However, if autonomy partnered with motivation, findings show a relationship of positive correlation to academic success. Moreover, Kirsche and Vaiouli (2023) supported this statement as the result of their study also showed that the relationship between academic success and students' autonomy as well as the relationship with motivation was significant and strong. Therefore, it can be inferred that maintaining a good level of autonomy could affect students' academic performance which may lead to obtaining academic success.

Based on Walberg's Theory of Educational Productivity, the psychological characteristics of individual students, and their immediate psychological environment influence their educational outcome: cognitive, behavioral, and attitudinal (Walberg, 1992). For classroom learning, each of the basic aspects seems to be important but insufficient on its own; hence, all four of these components seem to be at least minimally necessary. Additionally, the necessary elements may compete, compensate, or trade-off for one another with declining rates of return.

According to Walberg (1992), the eleven domains that has influence on the educational outcome of students are mostly socio-emotional influences, which includes classroom management, parental support, student- teacher interactions, social- behavioral attributes, motivational- effective attributes, the peer group, school culture, and classroom climate, of students are within the scope of the facets of psychological well-being. Their Autonomy is to their confidence in their opinions in the classroom climate and peer group, Environmental Mastery is to how they manage their life circumstances is related to their classroom environment and classroom climate, Personal Growth is their ongoing process of development which is through student-teacher interactions and challenges in life, Positive Relations with Others is how they maintain the relationships with their peers, teachers, and family, Purpose in Life is having goals and objective and lastly, the Self-acceptance is how

they perceive themselves in terms of their personality and their view on their academic achievement.

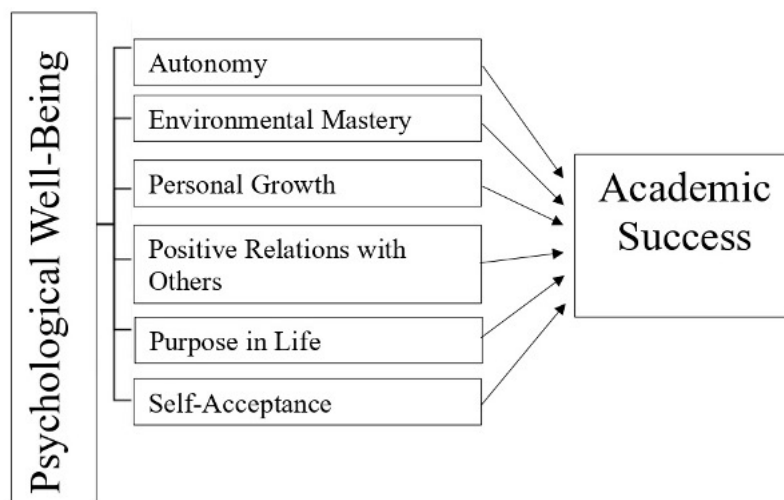


Figure 1: Conceptual Framework

The figure above illustrates the purpose of investigating whether there is a predictive relationship between psychological well-being and academic success.

The following terms were operationally defined as:

1. *Academic Success* – the general weighted average of students at the end of the term
2. *Autonomy* – pertains to having self-determination and independence; can fend off social influences to think and act in particular ways; controls conduct internally; and assesses oneself in accordance with personal standards
3. *Environmental Mastery* – pertains to having a sense of control and competence in controlling the environment; managing a wide range of external activities and being able to select or create contexts that suit their requirements and values
4. *Personal Growth* – pertains to a feeling that they are still developing, expanding, and growing, and open to new experiences, they see improvement in themselves and their behavior over time, and that they are changing in ways that reflect greater self-awareness and effectiveness
5. *Positive Relation with Others* – pertains to having a relationship with others that are warm, fulfilling, and trusting; cares about others' well-being, and understands the give-and-take nature of interpersonal interactions
6. *Psychological Well-being (PWB)* – the overall result of the six facets characterized by Autonomy, Environmental Mastery, Personal Growth, Positive Relations with Others, Purpose in Life, and Self-Acceptance
7. *Purpose in Life* – pertains to having a sense of direction and goals in life, believes that one's present and past experiences have meaning, and has goals and purposes for living
8. *Self-acceptance* – pertains to having a positive outlook on oneself; recognizes and embraces both one's excellent and poor attributes

Methodology

To investigate whether the state of the psychological well-being can contribute to and/or predict the academic success of the student respondents, the researchers made use of a correlational predictive design.

As the first semester of the A.Y. 2022-2023 had transitioned back to a face-to-face set-up of learning, the respondents were selected based on their GWA using a stratified random sampling procedure. The third-year college students were enrolled in the CAS programs including Biology, Economics, Political Science, Public Administration, and Psychology, with a GWA ranging from 1.00 to 1.75. The sample size is 110 students, determined by the statistical analysis software GPower. The statistical test of linear multiple regression was applied, with the effect size $f^2 = 0.1$, the probability of error = 0.05, power = 0.95, and the number of predictors = 6.

The researchers used the Ryff Scales of Psychological Well-Being developed by Carol D. Ryff, an instrument with theoretical underpinnings designed to measure several aspects of psychological well-being. The researchers opted to use the 18-item scale instead of the 42-item scale in which the recorded duration estimate was only three to five minutes. The researchers accomplished a letter of request submitted to the author to obtain necessary permits in administering the paper-and-pen questionnaire in a face-to-face manner. The tool is composed of statements answered by a five-point Likert scale (5 = Strongly Agree; 4 = Somewhat Agree; 3 = Neither Agree nor Disagree; 2 = Somewhat Disagree; 1 = Strongly Disagree). In the study conducted by De-Juanas et al., (2020), they found that PWB and Adulthood Autonomy Scale (EDATVA) scale dimensions correlate significantly and positively. Moderate correlations were found between self-organization of the EDATVA scale, purpose in life ($r = 0.568$; $p = 0.01$), and environmental mastery ($r = 0.447$; $p = 0.01$) of the PWB scale. As well as between autonomy on Ryff Scales and understanding context on the EDATVA scale ($r = 0.382$; $p = 0.01$).

Upon the approval of the college's dean to conduct the research, a copy of informed consent was given to the respondents to brief them about the study's elements. Essential information such as the nature of and purpose of the study, and their right to withdraw from the conduct of the study were discussed. The informed consent form also includes the confidentiality of their personal information, keeping the respondents' anonymity in accordance with the Data Privacy Act. All data gathered from the survey was stored and protected properly in the secured files of the researchers. It was used solely for research purposes, and unauthorized individuals do not have access to it. After it no longer serves its purpose, the accomplished questionnaires and collected information will be disposed of accordingly.

This study employed Jamovi version 2.3.18, to analyze the gathered data from the questionnaire. The scoring of raw scores was based on the five-point Likert scale. Upon transferring the raw data to the Jamovi statistical software, the responses were converted in their numerical equivalent including the reverse-scored items. Descriptive statistics were obtained through computing the mean and standard deviation from the raw scores. The results were organized by each facet of the PWB Scale. The mean from each facet was the basis to determine how high or low was the level of psychological well-being of the respondents. With an alpha level of .05, the Pearson correlation coefficient (r) was calculated to determine whether there was a significant relationship between academic success and psychological well-being. In addition, multiple linear regression was used to analyze the six (6) facets of

PWB to determine whether the subscales are predictors of academic success. The value of each predictor is weighed indicating how it contributes to the academic success of the respondents.

Results and Discussion

This chapter presents the analysis and interpretations of the data gathered by the researchers.

Subscale	Mean	SD
Autonomy	3.39	0.613
Environmental Mastery	3.26	0.633
Personal Growth	4.29	0.604
Positive Relations with Others	3.6	0.739
Purpose in Life	3.13	0.623
Self-acceptance	3.48	0.537

Verbal Interpretation: 1.00-2.50 = Low; 2.51-5.00 = High

Table 1: Respondents' Level of Psychological Well-being per Subscale

Table 1 shows the mean scores in each subscale and the verbal interpretation based on the arbitrary scaling of the researchers. With the highest possible mean of 5.00, the researchers can infer that all scores fall above the median and are considered 'High.' Looking into the values of standard deviation, the facets have consistent distribution with Personal Growth having the smallest spread among the subscales of PWB.

As seen in the computed data, respondents who are academically successful show that they have a high level of autonomy. They can resist social pressures and personal evaluation of themselves using idealistic standards. From this, it can be interpreted that respondents have a sense of control and competence in managing their environment. They can handle a wide range of external activities, effectively take advantage of opportunities found nearby, and are able to select or create contexts that suit their needs and values. The findings in the study conducted by Gunes and Alagozlu (2020) contradict the interpretation of the current data as it was shown in their study that neither the academic success of blended learning students nor that of asynchronous distance learning students was significantly correlated with their autonomy. Another study conducted by Stafford, Deeg, and Kuh, (2016) showed that women with lower educational levels demonstrated better environmental mastery skills compared to women with higher education levels.

In personal growth, academically successful respondents show a sense of ongoing development, reaching their potential, and a perceived improvement in self and behavior through time. The study conducted by Patanapu, et al. (2018) supports the result as the findings of their study revealed that students with high personal growth have the initiative to learn, to adapt to challenging circumstances, and work hard to achieve academic success. Similarly, the researchers can infer that the respondents have trusting relationships with others and are concerned about the welfare of the people that surround them with their high

level of Positive Relations with Others. They are capable of strong empathy, affection, and intimacy, as well as understanding the give and take of human relationships. A study about the relationship between friends and academic performance (2022) also supports this statement as the results highlight the significance of peer friendships and academic success for adolescents. It was found that friends support one another during academic issues and work together to advance their education which leads them to achieve academic success.

Respondents' high level of Purpose in Life indicates that they have goals in life and a sense of direction. In line with this statement, a study conducted by Yukhymenko-Lescroart (2022), discovered that University students who reported a keen sense of appreciation and a work-focused purpose orientation or life purpose reported stronger academic engagement and less academic burnout. Having high levels of Self-Acceptance indicates that respondents have a positive attitude towards themselves. They can acknowledge and accept multiple aspects of self, including good and bad qualities, and feel positive about past life. A study conducted by Toyota (2015) cited that people who were comfortable with themselves had a positive outlook on other people. Therefore, there is a relationship between self-acceptance and positive relationships with others.

Psychological Well-being Subscale	General Weighted Average
Autonomy	.255*
Environmental Mastery	-.037
Personal Growth	-.148
Positive Relations with Others	.022
Purpose in Life	-.224*
Self-Acceptance	.096

* $p < .05$

Table 2: Summary Correlation Table of the Variables

Table 2 indicates that the p-value of .007 reveals a significant relationship between GWA and Autonomy at the .05 alpha level. The Pearson's r value of .255 indicates a weak positive correlation. The positive direction would constitute that as the autonomy of the respondents increases so will their GWA. This suggests that there are other variables aside from Autonomy that could contribute to academic success.

Looking into the p-value of Environmental Mastery, its p-value of .699 is not statistically significant and seems to be not a good measure of academic success. This is similar to the case of Personal Growth (.123), Positive Relations with Others (.822), and Self-Acceptance (.320). Considering the findings, these facets appear to have no correlation with GWA as the p-values are more than the significance level of .05.

Albeit weak, the facet Purpose in Life with a p-value of .018 emerges to be statistically significant. Due to its negative Pearson's r (-.224), researchers can infer that as the respondents' Purpose in Life increases the GWA decreases. Having no sense of direction or

goals in life has a certain impact on increasing the GWA of the respondents. From a different perspective, taking it one step at a time and not looking too far into the future may be more beneficial in increasing the chances of academic success.

Out of the six facets, there are two subscales with a significant relationship with academic success: Autonomy ($p = .007$, $r = .255$), and Purpose in Life ($p = .018$, $r = .224$). The significant relationship of Autonomy and Purpose in Life to the academic success of the respondents agrees with the study of Tus, et al. (2021), wherein results show a strong connection between psychological health and academic success. Furthermore, Harding, et al. (2019), also mentioned in their study that it is particularly important to ensure that students maintain good health and psychological well-being as this helps to achieve academic success. Healthy psychological well-being leads to a more productive performance of students that helps them achieve academic success.

<i>PWB Subscale</i>	β	t
Autonomy	.286*	3.059
Environmental Mastery	-.050	-0.460
Personal Growth	-.154	-1.450
Positive Relations with Others	.025	0.255
Purpose in Life	-.211*	-2.133
Self-Acceptance	.060	0.603
<i>F</i>		3.03
<i>R Square</i>		.150

* $p < .05$

Table 3: Multiple Linear Regression of Psychological Well-being Subscales to General Weighted Average

Table 3 presents that the overall psychological well-being can predict 15% of the variance in the respondents' academic success. This result is similar to the findings of Zefi, et al. (2022), wherein it was discovered through a linear regression analysis that academic success is a powerful indicator of students' psychological health. Results illustrate how academic success is a predictor ($R^2 = 69.9\%$) of pupils' psychological well-being.

Considering the standard coefficients of the predictors, it can be observed that certain facets of PWB contribute to academic success. However, not all subscales are statistically significant at .05 alpha level. While Environmental Mastery, Personal Growth, Positive Relations with Others, and Self-Acceptance exhibited statistically insignificant results, Autonomy ($p = .003$) and Purpose in Life ($p = .035$) displayed predictive relationships with GWA. In comparison, Autonomy seems to be a more effective indicator of academic success than Purpose in Life. A unit increase in the Autonomy will predict a .286 increase in the GWA whereas a unit increase in Purpose in Life will predict a -.211 decrease in the GWA. In the study of Yukhymenko-Lescroart (2022), Purpose in Life is also correlated with better academic engagement. In addition, it was discovered to alleviate academic burnout. But as the study of Gunes and Alagozlu (2020) indicates that autonomy needs to be partnered with motivation to gain positive correlation results, this study presents that even without the variable of motivation, Autonomy is still statistically significant.

Conclusion

This study investigated whether there is a relationship between psychological well-being and academic success, particularly the predictive value of the six facets of PWB. Results show that the respondents possess a high level of psychological well-being reported through each of the dimensions. Distinctively, Autonomy and Purpose in life exhibited significant correlations to the respondents' GWA. This implies that those who are viewed as academically successful, possess characteristics of Autonomy—having independence, and confidence in their own opinion. This could be observed during school tasks given to them, wherein they require little to no assistance when accomplishing a task, and other people's opinions do not easily influence their way of approaching a certain problem. Also, they are deemed to have a sense of direction and goals in life. They believe that one's present and past experiences have meaning as defined by Purpose in Life. During their academic journey, the students hold a certain goal that they would want to achieve like completing the requirements of their desired program to graduate.

The overall PWB can predict the 15% of variances in academic success. High levels of psychological well-being could reflect good academic performance; however, it is not a direct measure of academic success. Looking into the six domains, it can be inferred that not all the facets have individual predictive abilities except Autonomy with 28.61% and Purpose in Life with 21.12% standardized coefficients.

To support the continuous transition from online, to blended, and back to face-to-face setup of learning, faculty members and administrators are encouraged to sustain a conducive environment for the holistic development of the students. The following recommendations are made to help optimize the psychological state of well-being which is a vital aspect of an individual's health:

- a. Enrich student wellness programs focused on psychological well-being and mental health. In celebration of the Mental Health Awareness Month (October), the institution holds various co-curricular activities promoting wellness in lieu of academic classes.
- b. Evaluate resources and course curriculum to cater to the students' best interests and adapt with the challenging nature and amount of course requirements. Annual articulation between departmental programs reinforces smooth transition across year levels and different learning modalities.

Future researchers may use the current study as a guide to further study psychological well-being and explore other factors that may affect students' academic success. In this light, the findings of the research may differ greatly if conducted with a larger sample and a different version of the Ryff Scales of PWB. To increase the validity and reliability of the study, it is recommended to use the 42-item version of the instrument, employ a probability sampling technique, and conduct pilot testing.

References

- Alam, Ashraf. "Positive Psychology Goes to School: Conceptualizing Students' Happiness in 21st Century Schools While 'Minding the Mind!' Are We There yet? Evidence-Backed, School-Based Positive Psychology Interventions." *ECS Transactions*, vol. 107, no. 1, *The Electrochemical Society*, Apr. 2022, pp. 11199–214. Crossref, <https://doi.org/10.1149/10701.11199ecst>
- Buka, P. (2015). *Promoting Academic Achievement through Positive Relationships*. *Journal of Educational and Social Research* <https://www.richtmann.org/journal/index.php/jesr/article/view/572/597>
- Burris, J. L., Brechting, E. H., Salsman, J., & Carlson, C. R. (2009). Factors associated with the psychological well-being and distress of university students. *Journal of American College Health*, 57, 536-543. doi:10.3200/JACH.57.5.536-544
- Cabrera, G., Daya, H., & Echague, N. (2019). *Factors Affecting the Psychological Well-being of College Students in a State University*. Retrieved from https://www.researchgate.net/publication/339973463_Factors_Affecting_the_Psychological_Well-being_of_College_Students_in_a_State_University
- Charry, C., et al. (2020). Psychological Well-Being and Youth Autonomy: Comparative Analysis of Spain and Colombia. *Frontiers in Psychology*. Retrieved from <https://doi.org/10.3389/fpsyg.2020.564232>
- Cooper, R. "What Is Psychological Wellbeing? | Robertson Cooper." (2018). *Robertson Cooper*, Retrieved from www.robertsoncooper.com/blog/what-is-psychological-wellbeing.
- Crous, G. (2017). Child psychological well-being and its associations with material deprivation and type of home. *Child. Youth Serv. Rev.* 80, 88–95. doi: 10.1016/j.chidyouth.2017.06.051
- Datu, J. A., & Lizada, G. S. (2018, June). Interdependent Happiness is Associated With Higher Levels of Behavioral and Emotional Engagement Among Filipino University Students. *Philippine Journal of Psychology*, 51(1). <https://doi.org/10.31710/pjp/0051.01.04>
- De-Juanas, A., et al. (2020). The Relationship Between Psychological Well-Being and Autonomy in Young People According to Age. *Frontiers in Psychology*. Retrieved from <https://doi.org/10.3389/fpsyg.2020.559976>
- Gunes, S. and Alagozlu, N. (2020). *The Interrelationship between Learner Autonomy, Motivation and Academic Success in Asynchronous Distance Learning and Blended Learning Environments*. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1272398.pdf>
- Guo, Y., Luo, S. & Tan, Y. (2023). Purpose in life and academic performance: Grit mediation among Chinese college students, *Journal of Psychology in Africa*, 33:1, 69-74, DOI: 10.1080/14330237.2023.2175970

- Harding, T., Lopez, V., Klainin-Yobas, P., & Publishing, S. R. (2019). *Predictors of Psychological Well-Being among Higher Education Students*. Retrieved from <https://www.scirp.org/journal/paperinformation.aspx?paperid=91248>
- Huo, J. (2022). *The Role of Learners' Psychological Well-Being and Academic Engagement on Their Grit*. *Frontiers in Psychology*. Retrieved from <https://doi.org/10.3389/fpsyg.2022.848325>
- Kirsch, S. and Vaiouli, P. (2023). *Students' Perspectives On Their Academic Achievement During The Covid-19 Pandemic: Learner Autonomy, School Satisfaction and Adult Support*. Retrieved from <https://www.sciencedirect.com/science/article/pii/S2590291123000384>
- McDowall, J. J. (2016). Create's Advocacy for Young People Transitioning from Care in Australia. *Young People Transitioning from Out-Of-Home Care*. London: Palgrave Macmillan, 285–308. doi: 10.1057/978-1-137-55639-4_14
- Mustafa, M., et al. (2020). The Relationship between Psychological Well-Being and University Students Academic Achievement. *International Journal of Academic Research in Business and Social Sciences*, 10(7), 518–525.
- Patanapu, S., et al. (2018). *Does academic performance influence personal growth initiative? An institutional-based study among undergraduate dental students*. *Journal of Education and Health Promotion*. Retrieved from <https://www.jehp.net/text.asp?2018/7/1/83/236083>
- Relationship between Friends and Academic Performance. (2022). *Edubirdie*. Retrieved from <https://edubirdie.com/examples/relationship-between-friends-and-academic-performance/>
- Research Methodology Group | Correlational Design, (n.d.). *University of Phoenix*. Retrieved from <https://research.phoenix.edu/content/research-methodology-group/correlational-design#:~:text=Correlational%20predictive%20design%20is%20used,the%20relation%20between%20two%20variables>
- Rydell, E. (2019). *Academic Support from Peers as a Predictor of Academic Self-Efficacy among College Students*. <https://eric.ed.gov/?id=EJ1211839>
- Ryff C. D. (1989). *Happiness is everything, or is it? Explorations on the meaning of psychological well-being*. *Journal of Personality and Social Psychology* 57: 1069–1081. Retrieved from <https://psycnet.apa.org/record/1990-12288-001>
- Ryff C. D. (1995). *Psychological well-being in adult life*. *Curr. Dir. Psychol.* 4, 99–104. 10.1111/1467-8721.ep10772395. Retrieved from <https://journals.sagepub.com/doi/10.1111/1467-8721.ep10772395>
- Sethi, J. et al., (2020). *Developmental Relationships and School Success: How Teachers, Parents, and Friends Affect Educational Outcomes and What Actions Students Say Matter Most*. <https://files.eric.ed.gov/fulltext/ED607255.pdf>

- Shek, D. (2018). *The Influence of Personal Well-Being on Learning Achievement in University Students Over Time: Mediating or Moderating Effects of Internal and External University Engagement*.
<https://www.frontiersin.org/articles/10.3389/fpsyg.2017.02287/full>
- Stafford, M., Deeg, D., & Kuh, D. (2016). *Educational Attainment and Women's Environmental Mastery in Midlife*. Retrieved from
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4831032/>
- Toyota, H. (2015). *Differences in Relationship Between Emotional Intelligence and Self-Acceptance as Function of Gender and Ibasho (a Person Who Eases the Mind) of Japanese Undergraduates*. Retrieved from
https://www.researchgate.net/publication/267248308_Differences_in_Relationship_Between_Emotional_Intelligence_and_Self-Acceptance_as_Function_of_Gender_and_Ibasho_a_Person_Who_Eases_the_Mind_of_Japanese_Undergraduates
- Tus, et al. (2021). *The Psychological Well-Being and Academic Performance of Filipino Freshmen Tertiary Students Amidst the New Normal of Education*. Retrieved from
<http://dx.doi.org/10.6084/m9.figshare.17237468.v1>
- Udhayakumar, and Illango. "Psychological Wellbeing Among College Students." *Journal of Social Work Education and Practice*, Apr. 2018,
www.jswep.in/uploads/3/1/7/2/31729069/030209_psychological_wellbeing.p
- Van Dierendonck, D., & Lam, H. (2022, September 8). Interventions to enhance eudaemonic psychological well-being: A meta-analytic review with Ryff's Scales of Psychological Well-being. *Applied Psychology: Health and Well-Being*.
<https://doi.org/10.1111/aphw.12398>
- Villarosa, J., & Ganotice, F. (2018). Construct Validation of Ryff's Psychological Well-being Scale: Evidence From Filipino Teachers in the Philippines. *Philippine Journal of Psychology*, 51(1). Retrieved from <https://doi.org/10.31710/pjp/0051.01.01>
- Walberg, H. J. (1992). *Walberg's theory of educational productivity*. Retrieved from:
<http://www.iapsych.com/acmcewok/Walberg'stheoryofeducationalproductivity.html>
- Weiss, L. A., et al. (2016, June 21). Can We Increase Psychological Well-Being? The Effects of Interventions on Psychological Well-Being: A Meta-Analysis of Randomized Controlled Trials. *PubMed Central (PMC)*.
<https://doi.org/10.1371/journal.pone.0158092>
- Yaghoobi A, Nesai Moghadam B. [The Effect of Positive Psychology Intervention on the Psychological Well-Being of Adolescents (Persian)]. *Iranian Journal of Psychiatry and Clinical Psychology*. 2019; 25(1):14-25. <http://dx.doi.org/10.32598/ijpcp.25.1.14>
- York, T.; Gibson, C.; and Rankin, S. (2015). *Defining and Measuring Academic Success, "Practical Assessment, Research, and Evaluation: Vol. 20, Article 5*. Retrieved from:
<https://scholarworks.umass.edu/pare/vol20/iss1/5>

Yu, X., et al. (2023). *Academic achievement is more closely associated with student-peer relationships than with student-parent relationships or student-teacher relationships*. Retrieved from <https://doi.org/10.3389/fpsyg.2023.1012701>

Yukhymenko-Lescroart, M. A. (2022). *Student Academic Engagement and Burnout Amidst COVID-19: The Role of Purpose Orientations and Disposition Towards Gratitude in Life*. *Journal of College Student Retention: Research, Theory & Practice*. Retrieved from <https://doi.org/10.1177/1521025122110041>

Zefi, V., et al. (2022). *Academic performance and psychological well-being of students in distance learning during the COVID-19 pandemic in Kosovo*. Retrieved from <https://doi.org/10.1016/j.ifacol.2022.12.061>

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***Correlation of Factors Influencing Japanese Proficiency
Among Undergraduates at Two Sites in Vietnam***

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Abstract

The global popularity of the Japanese language has underscored the challenges associated with attaining proficiency in diverse contexts. This cross-sectional study, conducted in 2023, involved 142 undergraduate students across two sites in Vietnam. The investigation aimed to elucidate the factors influencing Japanese language skills, with a particular emphasis on perceived proficiency, study motives, demographic variables, academic factors, self-esteem, and family dynamics. Employing correlation analysis, key determinants linked to Japanese language proficiency were identified, including academic major, age, grade, duration of Japanese language study, English proficiency, and local student status. Notably, listening and speaking skills were reported as the least developed among the four language skills, followed by writing and reading. Motives significantly associated with perceived Japanese proficiency encompassed the aspiration to work using Japanese language and the intention to teach Japanese. Furthermore, motives correlated with perceived speaking and listening skills included interest in manga and anime, communication with people, travel experiences, and a fondness for the Japanese language. These findings provide insights into the factors influencing Japanese proficiency among the targeted students. The implications suggest a need for tailored educational approaches to optimize language learning outcomes, particularly regarding the enhancement of speaking and listening skills.

Keywords: Japanese Language, Skills, Proficiency, Study Abroad, Preference, Undergraduate, Vietnam, Work Abroad

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Introduction

In recent years, the global prominence of the Japanese language has surged, driven by factors such as cultural exports, economic ties, and academic pursuits (AJE, n.d.; MOFA, 2021). This trend has sparked a growing interest in Japanese language learning across diverse geographical and socio-cultural contexts. Vietnam, with its historical and contemporary ties to Japan, stands as a significant locus for the study of Japanese language acquisition (Tran, 2019, 2023; Tran et al., 2023). Within this background, the challenges associated with attaining proficiency in Japanese become increasingly apparent (Kitano, 2001; Quintos, 2021). While numerous studies have explored language acquisition processes, there remains a need for comprehensive investigations that consider the intricate interplay of various factors shaping proficiency levels. Understanding these dynamics is pivotal for educators, policymakers, and practitioners seeking to optimize language learning outcomes and foster intercultural competence.

The literature offers valuable insights into the multifaceted nature of language acquisition. Studies have identified a myriad of factors influencing language proficiency, including individual characteristics, socio-cultural context, educational environment, and motivational factors (Atay & Kurt, 2010; Chirkov et al., 2007). For instance, research has shown that learners' age, gender, academic background, and prior language learning experiences can significantly impact language proficiency levels (Onwuegbuzie et al., 2000). Motivation emerges as a central construct in the study of language acquisition, with intrinsic and extrinsic motives playing distinct roles in shaping learning outcomes. While intrinsic motivations, such as interest in the language and culture, tend to foster sustained engagement and proficiency development, extrinsic motivations, such as career prospects and social recognition, can also exert significant influence on learners' efforts and achievements (Gardner, 2001; Gardner & MacIntyre, 1991; Hummel, 2012). Moreover, the educational context, including instructional methods, curriculum design, and institutional support, plays a crucial role in facilitating language learning. Effective pedagogical approaches that integrate communicative activities, authentic materials, and cultural immersion experiences have been shown to enhance proficiency levels and promote holistic language development (Hamada & Grafström, 2014).

Against this backdrop, this cross-sectional study seeks to elucidate the factors influencing Japanese language proficiency among undergraduate students in Vietnam. Drawing on a conceptual framework (Figure 1) informed by the existing literature, we aim to investigate the relationships between perceived proficiency levels, study motives, demographic variables, academic factors, self-esteem, and family dynamics.

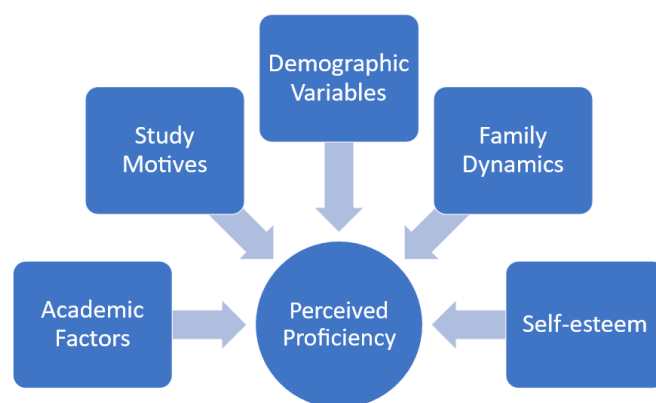


Figure 1. Conceptual Framework (by the authors)

By employing correlation analysis, we endeavor to identify key determinants linked to Japanese language proficiency and provide insights into the unique challenges and opportunities shaping language learning outcomes in this context. Ultimately, this study aims to inform tailored educational approaches that optimize language learning outcomes among students studying Japanese abroad.

Methodology

The target population consisted of undergraduates from two universities in Vietnam. Site A consists of a large-scale public university in northern Vietnam, which is specialized in the field of health sciences. Site B is a private university in Ho Chi Minh city, specializing in foreign languages studies and information technology. A foreign language is a mandatory subject in the curriculum. At site A, the participants were enrolled in a special Japanese program was established for students who were willing to learn Japanese with the possibility of working in Japan after graduation if they could pass the Japanese language requirements. At site B, the participants were majoring in Japanese language within the sub-majors of business communication, language teaching or translation.

This study employed a cross-sectional design. Data was collected in the second semester of the 2022-2023 academic year through an online form. The questionnaire was structured to obtain information in several key areas: (a) Demographic information; (b) Academic factors; (c) Motives to choose studying Japanese language; (d) Family dynamics; (e) Self-esteem; (f) Self-reported Japanese language proficiency. The survey utilized a Likert-style format consisting of five levels, ranging from 1 to 5, where 1 represents "strongly disagree," 2 denotes "disagree," 3 signifies "neutral," 4 indicates "agree," and 5 corresponds to "strongly agree." Data analysis was conducted using IBM SPSS Statistics. Prior to participation, participants were briefed on the study's objectives, voluntary nature of their involvement, as well as the confidentiality and anonymity ensured for their responses. Ethical clearance was obtained from the Tokushima University (Ref. 20008).

Results

All participants were undergraduates in Vietnam, majoring in Japanese studies and nursing. For all the target students, a foreign language is a mandatory subject in the curriculum. The data about the characteristics of respondents were collected in the following categories: individual demographic characteristics (4 variables), lodging characteristics (2 variables), academic characteristics (4 variables), family characteristics (4 items), self-esteem (1 scale of 10 items). The distribution of participants' characteristics is shown in Table 1.

Table 1. Participants' characteristics (N=142)

Variable	Value	Total	
		<i>n</i>	%
Age	M = 20.7; SD = 1.6; Median=21.0		
Gender	Female	129	90.8
	Male	13	9.2
Marital status	Single	142	100.0
	Married		
Int'l student	Int'l Student	19	13.4
	Local Student	123	86.6
Lodging	Dormitory	24	16.9
	Rental	83	58.5
	Home	35	24.6
Co-living with	Alone	44	31.0
	Roommate	59	41.5
	Family	39	27.5
Major	Nursing	86	60.6
	Japanese	56	39.4
Grade	1st year	31	21.8
	2nd year	33	23.2
	3rd year	28	19.7
	4th year	50	35.2
English level	Basic	122	85.9
	Intermediate	18	12.7
	Advanced	2	1.4
Years studying Japanese	1 years and less	31	21.8
	2 years	33	23.2
	3 years	38	26.8
	4 years	36	25.4
	5 years	3	2.1
	6 years and more	1	.7
Parents' highest education level	High School	115	81.0
	College	26	18.3
	Graduate degree	1	.7
Study abroad experience of family members	None	119	83.8
	Other than Japan	8	5.6
	Japan	15	10.6
Hometown	Other	82	57.7
	Provincial city	52	36.6
Perceived family income	Metropolitan	8	5.6
	Low	43	30.3
	Average	98	69.0
Self-esteem	High	1	.7
	M = 26.9; SD = 3.7; Median=26.5		

Figure 2 shows the Japanese language study motives of the respondents. Travel in Japan (M=4.09) received the highest mean score, indicating that it is the most desired activity among the respondents. Traveling to Japan is likely seen as an exciting and enriching experience, offering opportunities to explore the country's culture, history, and landmarks.

Communication (M=4.06) serves as a significant motivator for engagement with Japanese language and culture. It suggests that many respondents are driven by the desire to communicate effectively with Japanese speakers, either for personal or professional reasons. Employment in Japan’s company (M=3.91) indicates a strong interest among respondents in working for a Japanese company. This could be driven by various factors such as career opportunities, interest in Japanese business culture, or economic stability. Motives lowest scores includes peer influence (M=2.62), suggesting that respondents are less likely to be influenced by friends when it comes to activities related to Japan. Similarly, parental motivation received a relatively low score (M=3.11), indicating that parental influence is not a major factor driving engagement with Japan among respondents. Teaching Japanese language received one of the lowest scores (M=3.15), suggesting a lower interest in pursuing teaching as a career path or engaging in teaching Japanese as a volunteer activity.

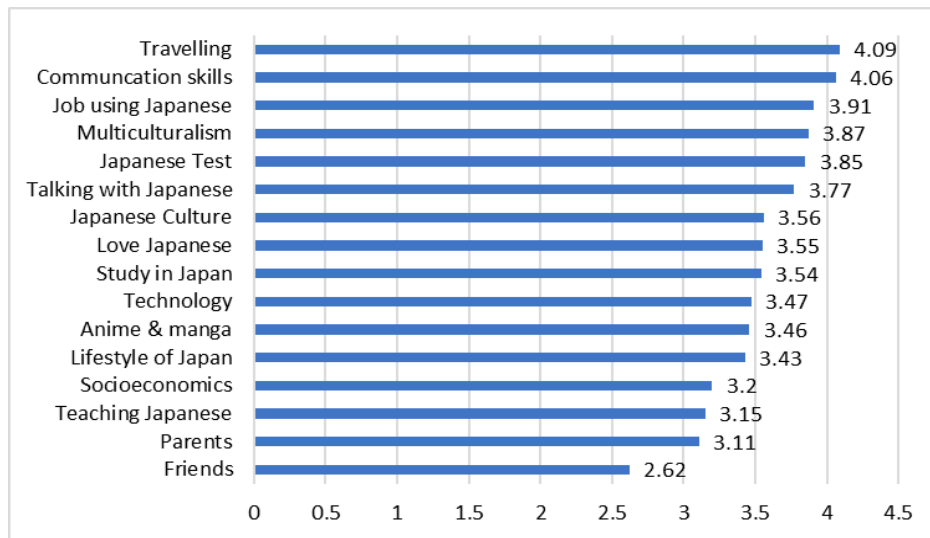


Figure 2. Japanese language study motives (N=142)

Figure 3 shows the proficiency scores that respondents perceive about four language skills. The data indicate that reading to be at the highest fluency, followed by writing, speaking, and listening.

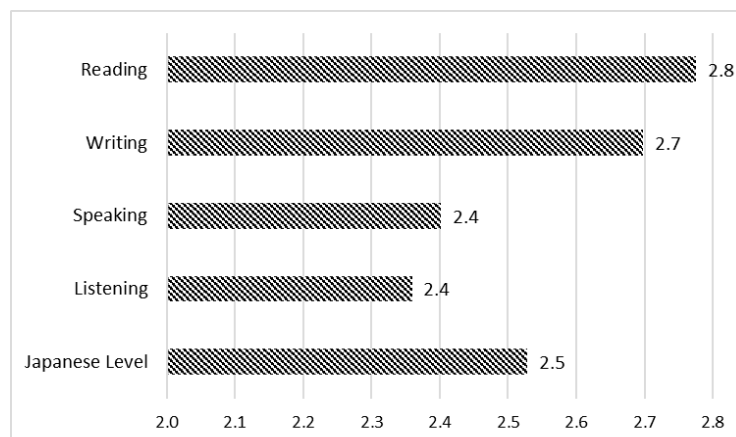


Figure 3. Japanese language proficiency (self-perceived) (N=142)

Table 2 presents the correlation between participants' self-evaluated Japanese proficiency levels and their study motives. Motives aligned with perceived Japanese proficiency include job-related factors and teaching Japanese. Speaking skills are associated with motives such as

anime, teaching Japanese, travel, communication, and a love for Japanese culture. Listening skills correlate with interests in anime, travel, communication, living in Japan, and a love for Japanese culture. Writing proficiency is linked to various motives, including job-related aspirations, academic pursuits, teaching, travel experiences, parental influence, test preparation, conversational abilities, communication, technology, lifestyle preferences, and a love for Japanese culture. Similarly, reading proficiency is influenced by motives related to job prospects, academic endeavors, teaching, travel experiences, parental guidance, test preparation, conversational abilities, communication, technology, lifestyle preferences, and a deep appreciation for Japanese culture.

Table 2. Correlation between Japanese level and study motives (N=142)

	Japanese Level	Speaking	Listening	Writing	Reading
Anime	.028	.194*	.289**	.076	.145
Culture	-.038	.049	.100	-.005	.099
Job using Japanese	.167*	.149	.107	.193*	.217**
Study in Japan	.131	.079	.150	.193*	.167*
Teach Japanese	.196*	.201*	.150	.206*	.260**
Travel to Japan	.138	.190*	.185*	.252**	.253**
Parents	.015	.131	.119	.214*	.059
Friends	-.084	.049	.075	.086	-.064
Taking Test	.077	.096	.143	.241**	.217**
Talking	-.099	.109	.025	.214*	.159
Communication	.053	.180*	.184*	.283**	.228**
Multiculture	-.110	.084	.053	.095	.114
Technology	-.027	.090	.076	.177*	.197*
Socioeconomy	-.087	.022	.076	.115	.071
Lifestyle	.120	.101	.170*	.176*	.200*
Love Japanese	.048	.262**	.221**	.258**	.315**

Spearman's correlation (2-tailed). * $p < 0.05$; ** $p < 0.01$.

Table 3 depicts the correlation between participants' self-evaluated Japanese proficiency levels and characteristic items. Factors associated with Japanese language proficiency include major, age, grade, years spent studying Japanese, English proficiency level, and whether the participant is a local student. Regarding Listening skills, correlations are observed with factors such as major, grade, years studying Japanese, and English proficiency level. Speaking is correlated with age, grade, years studying Japanese, and English proficiency level. Writing shows correlations with major, age, grade, years studying Japanese, English proficiency level, and self-esteem levels. Finally, reading is associated with major and self-esteem levels.

Table 3. Correlation between Japanese level and characteristics (N=142)

	Japanese Level	Speaking	Listening	Writing	Reading
Major	.270**	.126	.202*	.243**	.193*
Age	.632**	.309**	.133	.262**	.079
Sex	.098	.056	.107	.147	.109
Grade	.657**	.338**	.168*	.300**	.080
Foreigner	-.252*	-.015	.011	-.064	.093
Dormitory	.096	.025	.048	.070	-.100
Roommates	.036	-.067	.012	.028	.009
Parents' education	-.058	-.058	-.046	-.018	-.062
Hometown	.086	.019	.069	.052	.030
Family study abroad experience	-.096	.083	.129	.057	-.011
Family income	.008	-.035	.135	.040	-.074
Self-esteem	-.066	.017	.156	.234**	.232**
English level	.252**	.325**	.225**	.232**	.131
Years studied Japanese	.628**	.406**	.262**	.379**	.153

Spearman's correlation (2-tailed). * $p < 0.05$; ** $p < 0.01$.

Discussion

Japanese language study motives with the highest scores reflect a strong interest in experiential activities such as travel and communication, as well as professional aspirations related to employment opportunities. These results align with the previous study among undergraduates majoring in Japanese language in two countries (Tran et al., 2023), and partly align with worldwide survey data, which suggests that interest in anime, career aspirations, and fascination with Japan are among the primary motivations for learning Japanese. (Japan Foundation, 2021). On the other hand, motives with the lowest scores suggest that factors such as peer and parental influence, as well as teaching Japanese, are less influential in driving engagement with Japan among the respondents. This results also partly align with the previous study's findings (Tran et al., 2023).

Respondents' self-evaluated Japanese language skills reveal nuanced perceptions across various domains. Listening proficiency ($M=2.36$), emerges as the lowest among the listed skills, indicating a potential lack of confidence in understanding spoken Japanese, possibly stemming from challenges with diverse accents, dialects, or conversational pace. Similarly, speaking proficiency ($M=2.40$) reflects perceived difficulties in fluently expressing oneself verbally, potentially attributable to limitations in vocabulary, grammar, or conversational practice. Writing skills ($M=2.70$), rank higher than listening and speaking but fall below reading, suggesting room for improvement despite relative confidence in written expression. Challenges in writing may encompass mastery of kanji characters, grammatical structures, and overall composition skills. Conversely, respondents perceive reading proficiency ($M=2.77$) as the highest among the listed skills, indicating a greater comfort level with comprehending Japanese texts. This proficiency may stem from exposure to written materials such as books, manga, or online articles, coupled with dedicated study of kanji and vocabulary. In the current study, the respondents perceived their proficiency in reading to be the highest, followed by writing, speaking, and listening. These results are different from the previous study's findings, in which students perceived their skills in the following order: reading, listening, writing, speaking (Tran et al., 2023). The hierarchy of perceived proficiency levels may vary depending on individual learning experiences, exposure to

different language contexts, and the emphasis placed on each skill in their language learning journey. Improving proficiency in all language skills requires consistent practice, exposure to authentic language materials, and targeted learning strategies tailored to each skill.

The correlations in Table 3 provide insights into how various personal characteristics and educational factors may influence individuals' perceived proficiency levels in different aspects of the Japanese language. Our analysis indicates that majoring in Japanese studies, higher age, higher grade, higher English proficiency, and longer duration of Japanese language study tend to correspond with elevated levels of self-perceived language competency. Conversely, variables such as gender, lodging status (comprising two variables), and family characteristics (comprising four variables) exhibit no significant correlations with any of the assessed language skills. The results are similar to the previous study, except that in the current study, no correlating between co-living status and language skills were found (Tran et al., 2023). These findings provide valuable insights into the nuanced interplay between individual characteristics and language proficiency perceptions within the context of Japanese language acquisition. The synergism of multiple foreign languages (Rahmatian & Farshadjou, 2013) also has been found in the current study.

The study's findings closely align with the conceptual framework, revealing significant relationships between perceived proficiency levels and study motives, demographic variables, and academic factors as hypothesized. While family dynamics were included in the framework, the study did not find conclusive evidence to verify their association with perceived proficiency levels. Additionally, while self-esteem was considered, its influence on perceived proficiency levels was not fully supported by the findings.

One limitation of the methodology is the potential lack of generalizability of the findings beyond the specific context of the two universities in Vietnam. The study's cross-sectional design limits the ability to establish causal relationships between variables, as data is collected at a single point in time. This design also precludes the examination of longitudinal changes in language proficiency or study motivations over time. Furthermore, the reliance on self-reported measures for Japanese language proficiency and other key variables introduces the possibility of response bias or inaccuracies in participant self-assessment. Lastly, potential biases or limitations associated with online data collection methods should be acknowledged.

Conclusion

In conclusion, this cross-sectional study sheds light on the multifaceted factors influencing Japanese language proficiency among undergraduate students in Vietnam. Through correlation analysis, significant determinants such as academic major, age, grade, duration of Japanese language study, English proficiency, and local student status were identified as influential contributors to perceived proficiency levels. Notably, listening and speaking skills emerged as the least developed among the four language skills assessed, followed by writing and reading. Motives strongly correlated with perceived Japanese proficiency included aspirations to work using the language and the intention to teach Japanese. Additionally, motivations related to manga and anime interests, communication experiences, travel engagements, and a love for the Japanese language were associated with perceived speaking and listening skills. These findings underscore the need for tailored educational strategies to optimize language learning outcomes, particularly focusing on the enhancement of speaking and listening skills. They provide valuable insights for educators, curriculum developers, and

policymakers seeking to facilitate effective Japanese language education in diverse cultural contexts.

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References

- AJE. (n.d.). *Japanese language education in Europe*. Retrieved May 20, 2023, from <https://www.eaje.eu/en/europe-edu>
- Atay, D., & Kurt, G. (2010). The socio-educational model of second language acquisition: The Turkish context. *Procedia - Social and Behavioral Sciences*, 2(2), 3088–3093. <https://doi.org/10.1016/j.sbspro.2010.03.470>
- Chirkov, V., Vansteenkiste, M., Tao, R., & Lynch, M. (2007). The role of self-determined motivation and goals for study abroad in the adaptation of international students. *International Journal of Intercultural Relations*, 31(2), 199–222. <https://doi.org/10.1016/J.IJINTREL.2006.03.002>
- Gardner, R. C., & MacIntyre, P. D. (1991). An Instrumental Motivation in language Study. *Social Sciences*, 410, 57–72.
- Gardner, R. C. (2001). Integrative motivation and second language learning: Practical issues. *Foreign Language Education Research*, 2, 71–91. <http://hdl.handle.net/10112/1224>
- Hamada, Y., & Grafström, B. (2014). Demotivating factors in learning Japanese as a foreign language. *Akita University Liberal Arts Basic Education Research*, 1, 9–18.
- Hummel, K. M. (2012). Motivation and second language acquisition: the socio-educational model. *Journal of Multilingual and Multicultural Development*, 33(3), 317–319. <https://doi.org/10.1080/01434632.2011.614083>
- Japan Foundation. (2021). *Overseas Japanese Language Education Institution Survey 2021 Results*.
- Kitano, K. (2001). Anxiety in the College Japanese Language Classroom. *The Modern Language Journal*, 85(4), 549–566. <https://doi.org/10.1111/0026-7902.00125>
- MOFA. (2021). *Japanese Language Education*. Ministry of Foreign Affairs of Japan. https://www.mofa.go.jp/policy/culture/exchange/j_language/index.html
- Onwuegbuzie, A. J., Bailey, P., & Daley, C. E. (2000). Cognitive, Affective, Personality, and Demographic Predictors of Foreign-Language Achievement. *The Journal of Educational Research*, 94(1), 3–15. <https://doi.org/10.1080/00220670009598738>
- Quintos, S. B. (2021). Difficulties in Learning Japanese as a Foreign Language: The Case of Filipino Learners. *BU R&D Journal*, February. <https://doi.org/10.47789/burdj.mbtcbbs.20212402.04>
- Rahmatian, R., & Farshadjou, M. (2013). Simultaneous learning of two foreign languages, English and French, by adult persian-speaking learners. *International Education Studies*, 6(10), 70–77. <https://doi.org/10.5539/ies.v6n10p70>
- Tran, H. (2019). Situation of Japanese Language Education at Selected High Schools in Vietnam. *Bulletin of International Center, Tokushima University*, 1–4.

Tran, H. (2023). The Vision and Preference of International Students Enrolled in a Japanese Language School Post-Pandemic. *The Asian Conference on Education 2022 Official Conference Proceedings*, 601–613.

Tran, H., Marinova, K., & Nghiem, H. (2023). Exploring Perceived Speaking Skills , Motives , and Communication Needs of Undergraduate Students Studying Japanese Language. *Education Sciences*, 13(6), 550.

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The Effect of Project-Based Learning on Improving Students' Civic Responsibility

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Abstract

The learning process of civics subjects has obstacles in implementing abilities, developing students' thinking skills, and acting responsibly in solving problems in the surrounding environment. This study aims to determine the effect of project-based learning on increasing students' civic responsibility at the Korpri Karawang Private Senior High School. This research uses the survey method; the approach used in this research is quantitative. The subjects in this study were tenth-grade students, as many as 75 samples from 75 populations. The data collection technique used a questionnaire. Data analysis using a simple linear regression analysis test includes a determination coefficient test, significance test, and overall model test to test the hypothesis. Project-based learning has a significant positive effect on increasing the civic responsibility of Korpri Karawang Private Senior High School students, with an R Square value of 0.637 if presented equal to 63.7%. The recommendations of this study in the learning process of civic education should be the use of project-based learning models that need to be improved and conceptualized in implementing steps that teachers and students will carry out.

Keywords: Project-Based Learning, Civic Responsibility, Civic Education

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1. Introduction

Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their abilities or potential. Education as a conscious and planned effort has been stipulated in Law No. 20 of 2003 article (1) states that "Education is a conscious and planned effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious, spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, society, nation and state". Education has a role in shaping the characters of the nation's next generation, who have noble values and can be responsible. Education is a learning process that is carried out to achieve a goal. The basis of education determines the purpose of education as a fundamental philosophical basis for implementing education.

School is a formal education for students to explore knowledge and implement their potential, talents, and abilities. The learning process activities are inseparable from the learning model used by the teacher in managing the effectiveness of the learning process, especially in the subject of Pancasila and Civics Education. Trianto (2014) states, "A learning model is a plan or a pattern used as a guide in planning classroom learning or learning in tutorials". Civics learning allows students to express opinions and solve any problems given. The Project Based Learning learning model can be used in the learning process to develop students' ability to think and act responsibly in solving a problem in the surrounding environment. M. Kosasih (2014: 96) states, "Project-based learning is a learning model that uses projects/activities as its goal". Project-based learning focuses on student activities in the form of information gathering and utilization to produce something that can benefit the lives of students, others, and the surrounding environment, which can be related to the Basic Competencies of learning materials in the curriculum.

According to The George Lucas Educational Foundation (2005), "the steps of the Project Based Learning model: (1) start with the essential question; (2) design a plan for the project; (3) create a schedule; (4) monitor the students and the progress of the project; (5) assess the outcome; (6) evaluate the experience". The project-based Learning learning model can be used in civics subjects to solve problems in the surrounding environment; solving these problems certainly has a role in students' attitude to responsibility. Civic responsibility is an action and attitude related to civic responsibility as a form of voluntary participation. Civic responsibility is active participation in the community's public life in an informative, committed, and constructive manner, focusing on the common good (Gottlieb & Robinson, 2006). The project-based Learning model is designed to acquire new knowledge and skills by improving students' ability to solve problems through projects and their attitude of responsibility. The project-based learning model can be actualized based on predetermined steps so that students use their knowledge to solve problems in the surrounding environment while referring to the Basic Competencies of Civics subjects. This goal is a hope and effort to develop civic responsibility in students.

Based on the initial study conducted by researchers, in the learning process of civics subjects, there are obstacles to implementing abilities and developing students' thinking skills, as well as acting responsibly in solving a problem in the surrounding environment. This obstacle occurs because the application of the learning model is not fully implemented and is limited to emphasizing the critical thinking process of students; this impact results in affecting the development of students' civic responsibility attitudes to act responsibly in carrying out activities to solve a problem that is happening in the environment around students. The

learning process of civic education is improved not only by the thinking process but also by the actions taken by students and the whole attitude of student responsibility. The project-based Learning model is used in the learning process to develop students' ability to think and act responsibly when solving a problem in the surrounding environment. This research is similar to previous study conducted by Deny Setiawan, Surya Dharma, and Halking in 2021 with the research title "Development of a Civics Learning Model Based on the Nationality Project as a Systemic Program in Diversity in Diversity (Research and Development Study on Junior High School Students in Medan City)" which explains that the learning model is a systematic part as to strengthen students' national values because Civics is a subject that encourages respect for personality, national identity, and civilization, social responsibility, tolerance, multicultural, knowledge, civic and skills in the use of democratic institutions (Wahab and Sapriya, 2011 p. 144). Based on the above background, researchers will research the Project Based Learning learning model in Civics subjects at the Senior High School level titled "Implementation of Project-Based Learning in Developing Student Civic Responsibility".

2. Methodology of Research

This research uses a survey method. The approach used in this research is quantitative. The quantitative approach in the research approach uses numbers or data that are calculated and then analyzed systematically using statistics (Sugiyono, 2013: 12). Survey research is a quantitative approach. Surveys ask about their opinions about characteristics and behavior (Neuman W Lawrence, 2003). This research was conducted at Private Senior High School Korpri Karawang. The subjects in this study were class X students, and there were as many as 75 samples from 75 populations. According to Arikunto (2012: 104), if the population is less than 100 people, then the sample is taken as a whole, but if the population is more significant than 100 people, then 10-15% or 20-25% of the population can be taken. According to Sugiyono (2013: 117), population is a generalization area consisting of objects or subjects with specific qualities and characteristics set by researchers to study and then draw conclusions. This research goes through the stages of research instrument testing, data collection, and data analysis. The data collection technique in this study uses a research instrument in the form of a questionnaire. This study uses data analysis using simple linear regression analysis tests, which include the coefficient of determination test, significance test, and overall model test to test the hypothesis.

3. Results and Discussion

Based on the study results, the project citizen significantly increases the civic responsibility of KORPRI Karawang High School students with an R Square value of 0.637 if presented equal to 63.7%. The results of the questionnaire conducted on 75 respondents show that the project-based learning model that has been carried out affects the level of civic responsibility of students, meaning that in the implementation of the project-based learning model, students are required to be responsible in every aspect both individually and in groups in making decisions and acting. Learning models are related to the selection of strategies and the structure of methods, skills, and learner activities that have stages (syntax) in learning (Sani, 2013: 89). Iru and Arihi (2012: 6-7) suggest that "learning models are developed on several assumptions, namely (1) teaching is an effort to create an appropriate environment, where there are various teaching environments that have interdependence; (2) there are various components including content, teaching role skills, social relationships, forms of activities, physical facilities and their use, all of which form an environmental system whose parts

interact with each other, which urge the behavior of all participants, both teachers and students; (3) between these parts will produce different forms of the environment with different results; and (4) Because the teaching model creates an environment, the model provides rough specifications for the environment in the teaching-learning process in the classroom". The learning model used by the teacher plays an essential role in the learning process, stimulating students to act and implement their potential abilities.

Trianto (2011: 51) states that "project-based learning models have enormous potential to make learning experiences more interesting and useful for students". Since the project-based learning model (PjBL) positively impacts the learning process, it was chosen to be included in this study (Rati & Rediani, 2021). Several studies on j have been published, including one that states that online PjBL is successful in the learning process, as evidenced by clear feedback on what is being done and positive relationships between students and teachers (Beneroso & Robinson, 2022). Project Based Learning emphasizes student activeness in the learning process. The teacher's role in the project-based learning process is as a facilitator, evaluating the student's work products shown in the project results to produce authentic products that can encourage student creativity. Meaningful learning will give experience and help to improve a person's social-emotional behavior, which may be applied later in life (Bressington et al., 2018; Kostianen et al., 2018). The project-based learning process directs students in acting to create or develop a product based on problems in the surrounding environment. Theme problems that align with the environment are related to civic cooperation. The theme of civic cooperation has been conceptualized in Pancasila and civic education. Cooperation is helping and working together in every aspect of life in the environment, namely the school, community and family environment.

Widagdho (1991:144) said, "Responsibility is an awareness of behavior or actions that are intentional or unintentional". All forms of behavior or actions taken by citizens are a form of attitude decisions that a sense of responsibility must accompany. Sulhan (2010:5) defines responsibility as "a combination of behavior that can be accounted for (accountability)". Everything one does is considered in terms of its consequences. In other words, think before you act. Dare to take responsibility for all actions taken. In addition, it can provide an example of what it does. Excellence describes behavior that strives to do the best, is diligent in spirit, and does not give up easily. Self-control behavior (self-restrain) relates to the behavior of self-discipline and processing emotions". In line with the opinion of Nurmalina and Syaifullah (2008: 45) revealed that "responsible citizens (civic responsibility) make every effort to carry out and use their obligations by the applicable rules." The attitude and role of student responsibility can arise if students are given a stimulus to do and act according to the tasks they have been given.

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	14,028	5,899		2,378	0,020
	Effect of Project Based Learning	0,825	0,073	0,798	11,311	0,000

a. Dependent Variable: Improvement of Students' Civic Responsibility

Table 1. Simple Linear Regression Test

According to The George Lucas Educational Foundation (2005), the steps of the Project Based Learning model are as follows: "(1) determining the essential question (start with the essential question), learning begins with an essential question, namely questions that can provide assignments to learners in carrying out an activity; (2) designing project planning (design a plan for the project), planning is carried out collaboratively between teachers and learners; (3) developing a schedule (create a schedule), teachers and learners collaboratively develop a schedule of activities in completing the project; (4) monitor the students and the progress of the project, the teacher is responsible for monitoring the students' activities while completing the project; (5) assess the outcome, assessment is carried out to assist the teacher in measuring the achievement of standards, play a role in evaluating the progress of each learner, provide feedback on the level of understanding that has been achieved by the learners, assist the teacher in developing the next learning strategy; (6) evaluate the experience, at the end of learning, teachers and students reflect on the activities and results of the project that have been carried out". According to Mustari (in Nesa et al., 2020), "education is included in forming student personalities as a systematic activity that creates a character of responsibility for students". Nurmalina and Syaifullah (2008: 45) reveal that, "responsible citizens (civic responsibility) strive as much as possible to carry out and use their obligations in accordance with the applicable rules". This means citizens' intelligence is needed to foster an attitude of responsibility because good citizens will comply with applicable rules and avoid unwanted actions.

4. Conclusions and Recommendations

The project-based learning method has a significant positive effect on increasing students' civic responsibility at KORPRI Karawang High School. The relationship between the learning process using the project-based learning model and the improvement of student's civic responsibility is that the learning process using the project-based learning model emphasizes the attitude of student responsibility both individually and in groups. Project-Based Learning emphasizes student activeness in the learning process. The role of the teacher in the project-based learning process is as a facilitator, evaluating the student's work products shown in the project results and producing authentic products that can encourage student creativity.

Recommendations from researchers, namely, even though it has a significant positive effect on students' civic responsibility, in the process of learning civic education, the use of the Project Based Learning model should be improved and conceptualized in detail in the implementation of the steps to be carried out both by teachers and by students. The use of the Project Based Learning model needs to be considered from the application of the material to be studied, the learning media to be used, and the assessment of students both in its implementation and after the implementation of the Project-Based Learning model so that the increase in students' civic responsibility can increase optimally.

References

- Abdullah, Sani. (2013). *Inovasi Pembelajaran*. Jakarta: Bumi Aksara.
- Arikunto, Suharsini. (2012). *Prosedur Penelitian Suatu Pendekatan Praktek*. Jakarta: PT Rineka Cipta.
- Beneroso, D., & Robinson, J. (2022). Online project-based learning in engineering design: Supporting the acquisition of design skills. *Education for Chemical Engineers*, 38(January), 38-47. <https://doi.org/doi.org/10.1016/j.ece.2021.09.002> diunggah pada tanggal 25 Juli 2023.
- Bressington, D.T., Wong, W.K., Lam, K.K.C., & Chien, W.T. (2018). Concept mapping to promote meaningful learning, help relate theory to practice and improve learning self-efficacy in Asian mental health nursing students: A mixed-methods pilot study. *Nurse Education Today*, 60 (February 2017), 47-55. <https://doi.org/10.1016/j.nedt.2017.09.019> diunggah pada tanggal 25 Juli 2023.
- The George Lucas Educational Foundation. (2005). *Instructional Module Project Based Learning*. <http://www.edutopia.org/modules/PBL/whatpbl.php>. (diunduh pada Maret 2023).
- Gottlieb, K., & Robinson, G. (Eds.). (2006). *A practical guide for integrating civic responsibility into the curriculum (Second Edi)*. Community College Press.
- Iru, La dan Arihi, La Ode Safiun. (2012). *Pendekatan, Metode, Strategi, dan Model-Model Pembelajaran*. Yogyakarta: Multi Presindo.
- Joyce, B and Weill, M. (2009). *Models of Teaching: Model-model pengajaran (terjemahan)*. Yogyakarta: Pustaka Pelajar.
- Kosasih, E. (2014). *Strategi Belajar dan Pembelajaran Implementasi Kurikulum*. 2013. Bandung: Yrama Widya.
- Kostiainen, E., Ukoski, T., Ruohotie-Lyhty, M., Kauppinen, M., Kainulainen, J., & Mäkinen, T. (2018). Meaningful learning in teacher education. *Teaching and Teacher Education*, 71, 66–77. <https://doi.org/10.1016/j.tate.2017.12.009>
- Nesa, A., Asrori, M., & Marli, S. (2020). Implementasi Karakter Tanggung Jawab dan Peduli Lingkungan Dalam Mewujudkan Program Sekolah Harmoni Hijau. *Jurnal Pendidikan dan Pembelajaran Khatulistiwa (JPPK)*, 9(3), 1-11. <https://doi.org/10.26418/jppk.v9i3.39845> diunggah pada tanggal 25 Juli 2023.
- Neuman, W Lawrence. (2003). *Social Research Methods, Qualitative and Quantitative Approach*. Boston, New York: AB.
- Nurmalina, K dan Syaifullah. (2008). *Memahami Pendidikan. Kewarganegaraan*. Bandung: Universitas Pendidikan Indonesia.

Rati, N.W., & Rediani, N.N. (2021). Teachers and Parents Perspective: Is It Difficult for Project-Based Learning (PjBL) During the Covid-19 Pandemic? *International Journal of Elementary Education*, 5(4), 515-524. <https://doi.org/10.23887/ijee.v5i4.40836> diunggah pada tanggal 25 Juli 2023.

Sugiyono. (2013). *Pendekatan Kuantitatif*. Bandung: Alfabeta.

Sulhan, Najib. (2010). *Pengembangan Karakter dan Budaya Bangsa*. Surabaya: Jaring Pena.

Trianto. (2011). *Model Pembelajaran Terpadu*. Jakarta: Bumi Aksar.

Trianto. (2014). *Mendesain Model Pembelajaran Inovatif, Progresif dan Kontekstual Kosep Landasan dan Implementasi pada Kurikulum 2013*. Jakarta: Kencana.

Undang-Undang Nomor 20 Tahun 2003. *Tentang Sistem Pendidikan Nasional*. Jakarta: Depdiknas.

Wahab, A. A., & Sapriya. (2011). *Teori dan landasan pendidikan kewarganegaraan*. Alfabeta.

Widagdho, Djoko. (2010). *Ilmu Budaya Dasar*. Jakarta: Bumi Aksara.

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Leading in Difficult Times: A Look at the Process by Which Principals' Compassionate Leadership Influences Teacher Attitudes and Behaviour

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Abstract

Organizational leaders worldwide faced significant challenges managing operations during COVID-19, and schools were no exception. The quick transition to virtual classrooms placed additional strain on school teachers already dealing with the pandemic. These teachers required compassionate leadership to guide them through the crisis. With teacher stress at a record high, compassionate leadership became crucial for navigating these difficult times. Despite increasing evidence of the positive effects of compassionate leadership, researchers have not fully explored its theoretical and empirical connections to teacher attitudes and behaviors. The literature lacks a detailed examination of how compassionate principals affect teachers' work attitudes and behaviors. To address this gap, we propose a comprehensive conceptual model grounded in theories of trust, positive emotions, and self-efficacy. This model examines the relationships between compassionate leadership and teachers' work attitudes, including resilience, work engagement, psychological well-being, and job performance. Our study, which included school teachers, tested this conceptual model and found that compassionate leadership by school principals significantly impacts teachers' resilience, work engagement, psychological well-being, and job performance. These findings highlight the vital role of compassionate leadership in educational settings and suggest that school principals and other educational leaders should cultivate this leadership style. We also recommend future research directions and discuss the implications for organizational and school leadership during crises.

Keywords: Compassionate leadership, Positive Emotions, Self-Efficacy, Resilience, Work Engagement, Job Performance

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Introduction

The onset of the Covid-19 pandemic in 2020 posed an unprecedented threat to humanity, causing widespread distress and disruption across all sectors. Organizations worldwide faced immense pressure to navigate through the crisis, with particular emphasis on managing human resources effectively. School systems were no exception, grappling with the sudden shift to virtual learning and its profound impact on traditional teaching methods. Despite personal hardships faced by educators, including loss and financial strain, they remained committed to ensuring uninterrupted education for their students. Upon the eventual reopening of schools, teachers encountered altered environments and increased workloads, exacerbating feelings of anxiety and stress. In India, where the pandemic caused significant upheaval, the transition to virtual classrooms took a toll on teachers' well-being. Research underscores the detrimental effects of stress on both individual teachers and their work performance, emphasizing the importance of prioritizing psychological health during crises.

In such challenging times, compassionate leadership emerges as a crucial factor in supporting teachers' resilience and well-being. Leaders who demonstrate empathy and understanding can alleviate stress and foster positive emotions among their staff. This article proposes that compassionate school principals play a vital role in enhancing teachers' attitudes and job performance by promoting positive emotions and self-efficacy.

A conceptual framework is presented to illustrate how compassionate leadership influences various aspects of teacher well-being and performance, with trust serving as a key component. Practical guidelines are suggested for school principals to bolster teacher resilience and engagement through self-efficacy and positive emotions. Additionally, implications for future research and leadership practices are discussed. Our study highlights the significance of trust, positive emotions, and self-efficacy in the compassionate leadership process, drawing upon established theories in organizational psychology. By elucidating the mechanisms through which compassionate leaders impact teacher outcomes, this framework offers insights for leadership development and intervention strategies. Ultimately, this study aims to address the question of how compassionate leadership shapes teachers' attitudes and performance, providing a foundation for further exploration in this area. As we navigate the challenges of the pandemic, this research serves as a timely resource for educators and leaders striving to mitigate its impact on education.

Understanding Compassion

Compassion, a concept deeply rooted in ancient teachings, involves sharing in the pain and suffering of others. The word itself originates from Latin, meaning "to suffer with" (Spreitzer et al., 2013). While there have been various attempts to define compassion, it goes beyond mere empathy, encompassing an active desire to alleviate suffering through action (Lilius et al., 2008). Researchers emphasize three key components of compassion: empathetic understanding, caring for others, and a willingness to act (Boyatzis et al., 2006). Compassion involves not only recognizing suffering but also actively seeking to relieve it. Paul Gilbert describes it as sensitivity to suffering with a commitment to alleviate it (Gilbert, 2014). In practice, compassion entails noticing suffering, empathizing with others, and taking action to alleviate their pain. It involves not only emotional resonance but also a genuine desire to help (Strauss et al., 2016). The scientific community's growing focus on compassion is becoming increasingly evident. Researchers have identified four fundamental attributes of compassion:

cognitive knowledge of pain, emotional resonance, intentional desire to alleviate suffering, and motivational readiness to assist (Singer & Bolz, 2013).

Compassion in Organizational Contexts

Compassion in the workplace is a powerful tool for addressing employees' suffering. It involves demonstrating warmth, care, and kindness towards colleagues and subordinates (Dutton et al., 2006). Research shows that compassionate responses positively impact employee performance and well-being, fostering positive emotions, reducing stress, and enhancing commitment to the organization (Lilius et al., 2008). As research into workplace compassion grows, its importance for organizational effectiveness and employee well-being becomes increasingly evident. Compassion not only improves workplace relationships but also boosts employee performance, particularly in caregiving roles or environments with emotionally demanding work (Frost et al., 2000). Compassion is proven to be rewarding in workplaces where employees are caregivers or regularly work with emotionally fatigued co-workers. It fosters a supportive organizational environment, enhances employee commitment, and improves overall performance outcomes (O'Donohoe & Turley, 2006).

Leadership With Compassion

The global landscape, exacerbated by the Covid-19 pandemic, has revealed a significant leadership crisis marked by a lack of compassion among leaders (Friedman et al., 2017). Research underscores the critical role of compassionate leadership in fostering thriving organizational cultures, particularly in environments marred by toxicity and disengagement (Friedman et al., 2017). Compassionate leadership, characterized by empathy, availability, and kindness, extends care not only to employees but also to customers and society at large. Effective compassionate leaders prioritize the well-being of their team, fostering strong relationships and facilitating open discussions about challenges (Briner & Pritchard, 1997).

The impact of compassionate leadership extends beyond morale; it positively influences organizational productivity and resilience. Research indicates that compassionate leaders inspire commitment, enhance employee well-being, and foster a culture of care and support (Dutton et al., 2014; Lilius et al., 2011). Compassionate leadership provides employees with a sense of safety and empowerment, promoting resilience and organizational performance, especially during crises like Covid-19, (Dutton et al., 2002). In both crisis and normalcy, compassionate leadership proves instrumental in shaping organizational cultures of care and well-being. By prioritizing empathy and support, leaders can cultivate environments where employees feel valued, respected, and supported, ultimately contributing to organizational happiness and success (Frost et al., 2000; De Zulueta, 2015).

Promoting Compassion in Schools

Compassion is paramount in a school environment. Schools are more than just a venue for students; they are also places of work for teachers who hold emotions as any ordinary human person does (Brief & Weiss, 2002; Barsade et al., 2003; Hareli & Rafaeli, 2008; Robinson et al., 2013). Besides giving and receiving affection and emotions towards students, teachers, too, give and receive them toward one another. Contemporary organizational psychology research has revealed that emotions are present in employees at work and can all the more influence organizational outcomes. Accordingly, investigating teachers as compassion receivers has become particularly crucial.

Furthermore, research findings confirm the potential positive influence of compassion on teacher well-being, attitudes, and behavior as they are consistent with the findings of studies conducted in other job-related areas (Kahn, 1998; Hallowell, 1999; Folkman & Moskowitz, 2000; Dutton, 2003; Frost, 2003; Shuler & Sypher, 2000; Grandey et al., 2005; Hayward & Tuckey, 2011). While research on compassion and its influence on organizational outcomes (such as employee engagement, satisfaction, commitment, and performance) is expanding significantly in organizational psychology, it has received less attention in educational psychology. Researchers in educational psychology have so far mainly concentrated on the impact of compassionate and kind teachers on the success, performance, and well-being of their students. Thus, educational psychology has primarily focused on how compassion influences students, ignoring how it can impact other school employees, particularly teachers.

The Role of Principals' Compassionate Leadership

As school principals' leadership skills and behavior influence teachers' efficacy, job satisfaction, engagement levels, and trust (Hipp & Bredeson, 1995; Koh et al., 1995; Bogler, 2001; Dipaola & Tschannen-Moran, 2001; Bird et al., 2009), it is necessary to study the relationships between the compassionate leadership of school principals and trust, work attitudes, and performance of teachers. We base upon organizational psychology theory and research to propose a model that demonstrates the impact of school principals' compassionate leadership on teachers' desirable work attitudes and performance through the mediators, viz., positive emotions and self-efficacy. The model also examines the function of compassion from school principals as a coping strategy when teachers undergo crisis moments and proposes that positive emotions and self-efficacy act as mediators of these relationships. The overarching notion here is that workplace compassion from school principals can alleviate the sufferings and unavoidable pressures of teaching and serve as a coping strategy in times of crisis. Thus, we suggest that compassionate leadership of school principals will positively influence teachers' work attitudes, such as resilience, work engagement, and psychological well-being, and desirable job performance.

Self-Efficacy Through Compassionate Leadership

Compassionate leadership fosters an environment that nurtures employees' self-efficacy, contributing to their well-being and performance (Hebles et al., 2022). Self-efficacy, as defined by Bandura (1977, 1986, 1997), is a person's belief in their capability to efficiently complete a task or job. It significantly influences individuals' perception, motivation, and performance. Individuals with higher self-efficacy perceive challenges as opportunities for growth, demonstrating intrinsic motivation and dedication to their work (Bandura, 1997). Conversely, those with lower self-efficacy tend to avoid challenges and exhibit lower commitment to their goals (Bandura, 1997). Research indicates that compassionate leadership positively influences self-efficacy among employees, leading to increased self-confidence and productivity (Grant, 2008). Additionally, psychological safety, facilitated by compassionate leadership, aids in overcoming stress and intolerance, thereby enhancing self-efficacy (Zhou & Chen, 2021).

Compassionate school principals play a crucial role in creating a positive work environment, enhancing self-efficacy among teachers (Eldor & Shoshani, 2016). By providing emotional support and constructive feedback, compassionate leaders help develop teachers' belief in their capabilities, ultimately impacting their job performance positively. Therefore, adopting

compassionate leadership in schools can increase self-efficacy, leading to positive teacher work attitudes and performance outcomes.

Positive Emotions Through Compassionate Leadership

Compassionate leadership is crucial for evoking positive emotions among teachers, thereby improving attitudes and performance (Fredrickson, 1998, 2001; Eldor & Shoshani, 2016). Positive emotions elicited by compassionate principals create a trusting environment, enhancing teacher well-being and organizational resilience.

Positive emotions broaden thought-action repertoires and build lasting personal resources, mediating the relationship between compassion and work outcomes (Fredrickson, 1998, 2001, 2013; Fredrickson et al., 2003). These resources, including resilience and self-efficacy, contribute to enhanced well-being and performance. We suggest that positive emotions, frequently elicited by compassionate leadership, mediate the relationship between compassion and various work outcomes, including resilience, engagement, and psychological well-being (Fredrickson et al., 2003). Positive emotions serve as coping mechanisms during adversity, promoting recovery and well-being (Fredrickson et al., 2003). They have organizational benefits, such as increased engagement and productivity.

Positive Emotions in Teacher Well-being and Performance

Positive emotions fostered by compassionate leadership enhance teacher resilience and reduce absenteeism, contributing to improved performance. Compassionate leaders create a supportive environment that promotes positive emotional experiences among teachers. Compassionate leadership is vital for fostering positive emotions among teachers, leading to improved well-being and performance. It plays a pivotal role in creating a positive work environment conducive to organizational success.

Trust in the Leader

Our study emphasizes the critical role of trust in leaders for organizational effectiveness, especially in the context of compassionate leadership. Research has consistently shown that interpersonal trust directly or indirectly influences various positive organizational outcomes, including individual job performance, organizational commitment, and team performance (Dirks & Ferrin, 2001; Kramer, 1999). Trust in a leader has been recognized as a fundamental factor in effective leadership (Bass, 1990). Mayer and colleagues (1995) “define trust as ‘the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party’” (p. 712).

Compassionate leaders foster trust by demonstrating care and consideration for their followers, which enhances followers' trust levels and willingness to collaborate for organizational success (Jung & Avolio, 2000). Consequently, followers feel more at ease and motivated to successfully complete tasks. Trust in a leader has been found to positively impact follower attitudes, including organizational commitment and job satisfaction, as well as behaviors such as job performance (Butler et al., 1999; Podsakoff et al., 1996).

Moreover, the study investigates the moderating role of trust in compassionate leadership. Even if a leader exhibits compassion, their effectiveness may be limited if followers do not

trust them (Dirks & Ferrin, 2001). Trust in the leader serves as a moderator between compassionate leadership behavior and desirable outcomes among followers. For example, trust in a school principal may influence the impact of their compassionate leadership on teachers' work attitudes and job performance. Thus, trust in leaders is crucial for the effectiveness of compassionate leadership, as it moderates the relationship between compassionate leadership behavior and desirable outcomes among followers in organizational contexts.

Impact of Compassionate Leadership on Teacher Work Attitudes

1. Resilience: Compassionate leadership of school principals significantly influences teachers' resilience by fostering positive emotions and self-efficacy (Fredrickson & Joiner, 2018; Meneghel et al., 2016; Salanova et al., 2020). Teachers, when supported by compassionate leaders, are better equipped to bounce back from adversity and cope with challenges effectively, enhancing their overall resilience. This not only benefits teachers individually but also contributes to the resilience of the school community as a whole, especially during times of crisis.

2. Work Engagement: The compassionate leadership of school principals plays a crucial role in promoting teachers' work engagement by creating a supportive and encouraging work environment (Bakker et al., 2006). When teachers feel appreciated and valued by their leaders, they are more likely to exhibit vigor, dedication, and absorption in their work, leading to higher levels of engagement and productivity. Engaged teachers are not only more satisfied with their work but also contribute positively to the school's culture and effectiveness.

3. Psychological Well-being: Teachers' psychological well-being is significantly impacted by the compassionate leadership of school principals, especially during challenging times like the COVID-19 pandemic (Brackett et al., 2010; Košir et al., 2022). Compassionate leaders provide emotional support, empathy, and understanding, which help alleviate stress and promote overall well-being among teachers. Prioritizing teachers' psychological well-being is not only essential for their health and happiness but also directly impacts their ability to effectively teach and support students.

Impact of Compassionate Leadership on Job Performance

Compassionate leadership positively influences teachers' job performance by fostering positive emotions and self-efficacy (Frost, 1999; Dutton et al., 2002). When teachers feel supported and cared for by their principals, they are more motivated to perform at their best, resulting in improved job performance and ultimately benefiting students and the entire educational system. Schools led by compassionate principals are more likely to achieve higher levels of academic success and student well-being.

In summary, the key findings of the study shed light on the intricate dynamics between compassionate leadership and teacher well-being and performance. These findings include the influence of compassionate leadership on resilience, psychological well-being, work engagement, and job performance, mediated by both self-efficacy and positive emotions, and moderated by trust in the leader (Bandura, 1977; Fredrickson, 2013; Grant, 2008). Overall, this study contributes to the understanding of the dynamic relationship between compassionate leadership and teacher outcomes in educational settings, particularly during

times of crisis, providing valuable insights for both theory and practice in educational leadership.

These findings underscore the critical role of compassionate leadership in educational settings. Principals who prioritize compassion create environments where teachers feel valued, supported, and motivated to excel. By investing in the well-being and engagement of teachers, schools can enhance overall resilience, productivity, and performance. Additionally, during times of crisis, such as the COVID-19 pandemic, compassionate leadership becomes even more crucial in navigating challenges and maintaining the stability and effectiveness of the educational system.

Methodology

This study employed a descriptive and cross-sectional design to investigate the impact of compassionate leadership on various outcomes among school teachers in India. The research targeted individual teachers as the unit of analysis, focusing specifically on those working under the leadership of school principals. The sampling frame consisted of teachers in India, and the study utilized convenience and snowball sampling techniques to recruit participants. These methods allowed for a broad and inclusive sample, facilitating a comprehensive analysis of the research questions. Data were collected through a questionnaire survey method, which provided a systematic approach to gather quantitative data from a large sample. The final sample size comprised 496 teachers, offering a robust dataset for further statistical analyses.

Results and Discussion

Our findings indicate that compassionate leadership behavior exhibited by school principals significantly enhances teachers' self-efficacy. When principals demonstrate compassionate behaviors and are trusted by their teachers, it positively influences the teachers' beliefs in their ability to perform their roles effectively. The study suggests that trust strengthens the relationship between compassionate leadership and teacher self-efficacy, creating a synergistic effect. High levels of trust amplify the positive impact of compassionate leadership on self-efficacy. Moreover, self-efficacy mediates the relationship between compassionate leadership and teacher resilience, with trust moderating this mediation. Consequently, compassionate leadership behavior indirectly contributes to teacher resilience by promoting self-efficacy among teachers. The study also shows that compassionate leadership behavior positively impacts the positive emotions experienced by teachers, with trust in the principal further enhancing these emotions. Our findings suggest that compassionate leadership indirectly fosters teacher resilience by enhancing positive emotions, with this indirect relationship being significant across all levels of trust.

Furthermore, the study indicates that compassionate leadership behavior indirectly enhances teachers' psychological well-being by fostering their self-efficacy. Principals who demonstrate compassionate leadership behaviors positively influence the self-efficacy of their teachers, which in turn contributes to the teachers' psychological well-being. This positive indirect effect is particularly significant when trust levels are moderate to high, indicating that trust plays a crucial role in enhancing the benefits of compassionate leadership on psychological well-being through self-efficacy. Furthermore, our findings suggest that positive emotions experienced by teachers significantly contribute to their psychological well-being. Teachers who experience more positive emotions tend to have better overall

psychological well-being. Compassionate leadership behavior indirectly influences psychological well-being by fostering positive emotions among teachers. Thus, principals who foster positive emotions among teachers contribute to their overall psychological well-being.

Moreover, our findings indicate that self-efficacy significantly influences work engagement among teachers. Teachers who feel competent and capable are more likely to be engaged and motivated in their work. The impact of compassionate leadership behavior on teachers' work engagement is indirect, mediated by self-efficacy. The level of trust that teachers have in their school principal moderates this relationship, with high levels of trust amplifying the positive impact of compassionate leadership on self-efficacy and, consequently, work engagement. The indirect effect of compassionate leadership on work engagement through self-efficacy is particularly significant when trust levels are moderate to high. The study suggests that compassionate leadership behavior does not directly impact teachers' work engagement. However, it indirectly influences work engagement through its positive effect on teachers' positive emotions. Higher levels of trust amplify the positive impact of compassionate leadership on work engagement by enhancing positive emotions.

Additionally, our findings show that self-efficacy has a significant positive impact on teachers' job performance. Compassionate leadership behavior influences job performance indirectly through its positive effect on teacher self-efficacy. Trust moderates this indirect relationship, with moderate to high levels of trust enhancing the positive impact of compassionate leadership on job performance via self-efficacy. Thus, the combination of compassionate leadership and trust leads to improved job performance through increased self-efficacy. Finally, the study suggests that compassionate leadership behavior indirectly affects job performance through positive emotions, indicating full mediation by the positive emotions of teachers. Trust also influences this indirect pathway through positive emotions. Higher levels of trust strengthen the positive relationship between compassionate leadership behavior and job performance via positive emotions, whereas lower levels of trust attenuate this relationship.

To summarise, this study integrated various theories to explore how compassionate leadership in school principals affects teachers' attitudes and performance via self-efficacy and positive emotions. It proposed a moderated mediation model to examine these effects, drawing from theories on trust, positive emotions, and self-efficacy. The findings indicate a direct link between compassionate leadership and teachers' attitudes and performance, with trust potentially moderating this relationship. Trust in the leader is crucial in influencing teachers' self-efficacy and positive emotions, thereby impacting their attitudes and performance. Overall, compassionate leadership is shown to enhance teacher attitudes and performance by fostering self-efficacy and positive emotions.

Implications for Practice and Conclusion

Our study illustrates how compassionate leadership by school principals positively impacts teachers' attitudes and performance, particularly during crises like the COVID-19 pandemic. It offers valuable insights for educational institutions and organizational leaders, emphasizing the crucial role of compassion in nurturing resilience and enhancing job performance among teachers. Amidst adversity, such as the pandemic, compassionate leadership becomes even more vital in educational settings. Educational institutions can significantly benefit from implementing leadership development programs that emphasize the cultivation of

compassionate leadership skills among school principals. These programs should include training modules that focus on empathy-building, effective communication strategies, and fostering supportive relationships with teachers. By equipping school leaders with these skills, institutions can enhance the overall leadership quality within schools, leading to a more positive and productive educational environment. School leaders should also prioritize trust-building initiatives to enhance teachers' trust in their principals. This can be achieved through open communication, transparency in decision-making, and consistent support for teacher well-being. Such initiatives are crucial for building and strengthening the teacher-principal relationship, which in turn can lead to a more cohesive and collaborative school environment. Trust-building measures not only improve the relational dynamics within schools but also contribute to the overall effectiveness of leadership.

Moreover, schools should strive to create an organizational culture that values compassion, empathy, and trust. This can be accomplished through the implementation of policies that prioritize employee well-being, recognition programs that celebrate the achievements and efforts of staff, and collaborative decision-making processes that involve input from various stakeholders. By fostering a culture of compassion, schools can create a supportive and nurturing environment that enhances both teacher satisfaction and student outcomes. Finally, we urge school leaders to prioritize compassionate practices, recognizing their ability to foster resilience and well-being among teachers, thus creating a supportive work environment. In essence, our study highlights the mutual benefits of compassionate leadership for leaders and organizations. By compassionately responding to employee suffering, leaders enhance their effectiveness and inspire others to adopt compassionate approaches, fostering a culture of compassion and support within educational institutions and beyond.

References

- Bakker, A. B., Gierveld, J. H., & Van Rijswijk, K. (2006). *Success factors among female school principals in primary teaching: A study on burnout, work engagement, and performance*. Diemen the Netherlands: Right Management Consultants.
- Barsade, S. G., Brief, A. P., & Spataro, S. E. (2003). *The affective revolution in organizational behavior: The emergence of a paradigm*. In *Organizational Behavior: A Management Challenge* (pp. 3-50).
- Bass, B. M. (1990). *Bass and Stogdill's handbook of leadership: Theory, research, and managerial applications* (3rd ed.). New York: Free Press.
- Bird, J. J., Wang, C., Watson, J. R., & Murray, L. (2009). Relationships among principal authentic leadership and teacher trust and engagement levels. *Journal of School Leadership, 19*(2), 153-171.
- Bloom, P. (2017). *Against empathy: The case for rational compassion*. Random House.
- Bogler, R. (2001). The influence of leadership style on teacher job satisfaction. *Educational Administration Quarterly, 37*(5), 662-683.
- Boyatzis, R. E., Smith, M. L., & Blaize, N. (2006). Developing sustainable leaders through coaching and compassion. *Academy of Management Learning & Education, 5*(1), 8-24.
- Brackett, M. A., Palomera, R., Mojsa-Kaja, J., Reyes, M. R., & Salovey, P. (2010). Emotion-regulation ability, burnout, and job satisfaction among British secondary-school teachers. *Psychology in the Schools, 47*(4), 406-417.
- Brief, A. P., & Weiss, H. M. (2002). Organizational behavior: Affect in the workplace. *Annual review of psychology, 53*(1), 279-307.
- Briner, B., & Pritchard, R. (1997). Compassionate Leadership: Compassion may take the form of tough love. *Executive Excellence, 14*, 6-6.
- Butler Jr, J. K., Cantrell, R. S., & Flick, R. J. (1999). Transformation leadership behaviors, upward trust, and satisfaction in self-managed work teams. *Organization Development Journal, 17*(1), 13.
- De Zulueta, P. C. (2015). Developing compassionate leadership in health care: an integrative review. *Journal of healthcare leadership, 1-10*.
- Dipaola, M., & Tschannen-Moran, M. (2001). Organizational citizenship behavior in schools and its relationship to school climate. *Journal of school Leadership, 11*(5), 424-447.
- Dirks, K. T., & Ferrin, D. L. (2001). The role of trust in organizational settings. *Organization science, 12*(4), 450-467.

- Dutton, J. E. (2003). *Energize your workplace: How to create and sustain high-quality connections at work*. John Wiley & Sons.
- Dutton, J. E., Frost, P. J., Worline, M. C., Lilius, J. M., & Kanov, J. M. (2002). Leading in times of trauma. *Harvard Business Review*, *80*(1), 54-61.
- Dutton, J. E., Workman, K. M., & Hardin, A. E. (2014). Compassion at work. *Annu. Rev. Organ. Psychol. Organ. Behav.*, *1*(1), 277-304.
- Dutton, J. E., Worline, M. C., Frost, P. J., & Lilius, J. (2006). Explaining compassion organizing. *Administrative science quarterly*, *51*(1), 59-96.
- Eldor, L., & Shoshani, A. (2016). Caring relationships in school staff: Exploring the link between compassion and teacher work engagement. *Teaching and Teacher Education*, *59*, 126-136.
- Figley, C. R. (Ed.). (1995). *Compassion fatigue: Coping with secondary traumatic stress disorder in those who treat the traumatized* (No. 23). Psychology Press.
- Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *American psychologist*, *55*(6), 647.
- Fredrickson, B. L. (1998). What good are positive emotions? *Review of general psychology*, *2*(3), 300-319.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American psychologist*, *56*(3), 218.
- Fredrickson, B. L. (2013). Positive emotions broaden and build. In *Advances in experimental social psychology* (Vol. 47, pp. 1-53). Academic Press.
- Fredrickson, B. L., & Joiner, T. (2018). Reflections on positive emotions and upward spirals. *Perspectives on Psychological Science*, *13*, 194–199. doi:10.1177/1745691617692106
- Fredrickson, B. L., Tugade, M. M., Waugh, C. E., & Larkin, G. R. (2003). What good are positive emotions in crisis? A prospective study of resilience and emotions following the terrorist attacks on the United States on September 11th, 2001. *Journal of personality and social psychology*, *84*(2), 365.
- Friedman, H. H., & Gerstein, M. (2017). Leading with compassion: The key to changing the organizational culture and achieving success. *Psychosociological Issues in Human Resource Management*, *5*(1), 160.
- Frost, P. J. (1999). Why compassion counts! *Journal of Management Inquiry*, *8*(2), 127-133.
- Frost, P. J. (2000). *Toxic emotions at work: How compassionate managers handle pain and conflict*. Boston, MA: Harvard Business School Press.
- Frost, P. J. (2003). *Toxic emotions at work: How compassionate managers handle pain and conflict*. Boston, MA: Harvard Business School Press.

- Gilbert, P. (2014). The origins and nature of compassion focused therapy. *British Journal of Clinical Psychology, 53*(1), 6-41.
- Grandey, A. A., Fisk, G. M., & Steiner, D. D. (2005). Must “Service With a Smile” Be Stressful? The Moderating Role of Personal Control for American and French Employees. *Journal of Applied Psychology, 90*(5), 893–904.
- Hallowell, E. M. (1999). The human moment at work (pp. 1-8). *Harvard Business Review*.
- Hareli, S., & Rafaeli, A. (2008). Emotion cycles: On the social influence of emotion in organizations. *Research in organizational behavior, 28*, 35-59.
- Hayward, R. M., & Tuckey, M. R. (2011). Emotions in uniform: How nurses regulate emotion at work via emotional boundaries. *Human relations, 64*(11), 1501-1523.
- Hebles, M., Trincado-Munoz, F., & Ortega, K. (2022). Stress and turnover intentions within healthcare teams: The mediating role of psychological safety, and the moderating effect of COVID-19 worry and supervisor support. *Frontiers in Psychology, 12*, 758438.
- Hipp, K. A., & Bredeson, P. V. (1995). Exploring connections between teacher efficacy and principals’ leadership behaviors. *Journal of School Leadership, 5*(2), 136-150.
- Jung, D. I., & Avolio, B. J. (2000). Opening the black box: An experimental investigation of the mediating effects of trust and value congruence on transformational and transactional leadership. *Journal of organizational Behavior, 21*(8), 949-964.
- Kahn, W. A. (1998). Relational systems at work. *Research in Organizational Behavior, 20*, 39-76
- Koh, W. L., Steers, R. M., & Terborg, J. R. (1995). The effects of transformational leadership on teacher attitudes and student performance in Singapore. *Journal of organizational behavior, 16*(4), 319-333.
- Košir, K., Dugonik, Š., Huskić, A., Gračner, J., Kokol, Z., & Krajnc, Ž. (2022). Predictors of perceived teachers’ and school counsellors’ work stress in the transition period of online education in schools during the COVID-19 pandemic. *Educational Studies, 48*(6), 844-848.
- Kramer, R. M. (1999). Trust and distrust in organizations: Emerging perspectives, enduring questions. *Annual review of psychology, 50*(1), 569-598.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of management review, 20*(3), 709-734.
- Meneghel, I., Salanova, S., & Martínez, I. M. (2016). Feeling good makes us stronger: How team resilience mediates the effect of positive emotions on team performance. *Journal of Happiness Studies, 17*, 239–255.

- O'Donohoe, S., & Turley, D. (2006). Compassion at the counter: Service providers and bereaved consumers. *Human Relations, 59*(10), 1429-1448.
- Podsakoff, P. M., MacKenzie, S. B., & Bommer, W. H. (1996). Transformational leader behaviors and substitutes for leadership as determinants of employee satisfaction, commitment, trust, and organizational citizenship behaviors. *Journal of management, 22*(2), 259-298.
- Robinson, M. D., Watkins, E. R., & Harmon-Jones, E. (Eds.). (2013). *Handbook of cognition and emotion*. Guilford Press.
- Ryan, D. L. (2018). Paul Bloom: Against Empathy: The Case for Rational Compassion: New York: Ecco HarperCollins, 2016, 285 pp. \$26.99. ISBN: 978-0062339331. *Society, 55*(2), 216-217.
- Salanova, M., Rodríguez, A., & Nielsen, K. (2020). The impact of group efficacy beliefs and transformational leadership on followers' self-efficacy: A multilevel-longitudinal study. *Current Psychology*, first online. doi:10.1007/s12144-020-00722-3
- Shuler, S., & Sypher, B. D. (2000). Seeking emotional labor: When managing the heart enhances the work experience. *Management Communication Quarterly, 14*(1), 50-89.
- Singer, T., & Bolz, M. (2013). Compassion: Bridging practice and science. *Max Planck Institute for Human Cognitive and Brain Sciences*.
- Spreitzer, G. M., Cameron, K. S., Lilius, J. M., Kanov, J., Dutton, J. E., & Worline, M. C. (2013). Compassion revealed: what we know about compassion at work (and where we need to know more). *The Oxford Handbook of Positive Organizational Scholarship, 273-288*.
- Strauss, C., Taylor, B. L., Gu, J., Kuyken, W., Baer, R., Jones, F., & Cavanagh, K. (2016). What is compassion and how can we measure it? A review of definitions and measures. *Clinical psychology review, 47*, 15-27.
- Zhou, H., & Chen, J. (2021). How does psychological empowerment prevent emotional exhaustion? Psychological safety and organizational embeddedness as mediators. *Frontiers in psychology, 12*, 2945.

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Is it Possible? Culturally Responsive Teaching in a Virtual Classroom

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Abstract

Gloria Ladson-Billings (1995) articulated and defined culturally relevant pedagogy as being comprised of three components:

1. Student Learning - The students' intellectual growth and moral development, but also their ability to problem solve and reason.
2. Cultural Competence - Skills that support students to affirm and appreciate their culture of origin while developing fluency in at least one other culture.
3. Critical Consciousness - The ability to identify, analyze, and solve real-world problems, especially those that result in societal inequalities.

Geneva Gay (2010), a professor of education at the University of Washington, defines culturally responsive teaching as “using cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant and effective for them. It teaches to and through the strengths of these students.” Essentially, both of these definitions provide directional support for educators in empowering their students. While effective educators intuitively understand that relationships are at the heart of creating a pathway to learning, culturally responsive teaching (CRT) helps to define the necessity of this for underserved populations of students and begins to support teachers in understanding how to penetrate existing barriers in order to propel all students forward. Within this context, culturally responsive teaching needs to continue to be defined for all educators, but also redefined in light of the impact of COVID. Educators need to be given a toolbox to support them in understanding best practices, methods for implementation and time for reflection on their evolving CRT pedagogy.

Keywords: Online Education, Culturally Responsive Pedagogy, Methods for Implementation

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Introduction

COVID-19 changed the landscape of higher education. Professors were forced to adapt to online instruction. Zoom became a platform everyone was familiar with and professors learned to adjust instruction to ensure that courses were still valuable. Furthermore, teacher educators had to learn new ways to model instruction for their teacher candidates within a virtual context.

Now that we are several years past the forced virtual teaching that COVID ushered in, it is evident that virtual instruction is here to stay. During the pandemic, it was clear that inequities existed for various students and that these disparities were exacerbated by the conditions created during COVID. In the ensuing years, educators have had opportunities to both reflect on and to improve practices to ensure that all students are given the resources and support to be successful. A large component of this focuses on what educators can do to create engaging environments that are structured for student success.

Literature Review

Even prior to COVID-19, distance learning was the fastest growing mode of learning. (Vaughan et al., 2013) However, all modes of distance (synchronous, asynchronous, and hybrid) learning exploded with the COVID pandemic. As such, a review of the literature is more essential than ever in understanding how best to utilize the online platform.

Design of Online Learning Courses

Prior to students enrolling in the course, an online professor must invest substantial time into designing and organizing the online course in a manner that is conducive to student learning and success. Garrison states, “Designing a blended learning experience should start with organizing the content and activities. In addition, clear objectives for content and performance expectations will ensure a productive educational experience...it is crucial that the course outline, assignments, and grading rubric be posted well before the course begins” (35).

Finally, the online professor needs to lean on student feedback for continued reflection on their practices and organization of the Learning Management System (LMS), syllabus, and tentative schedule in order to promote continual improvement (Garrison, 43).

Successful Student Qualities

The online student must possess certain qualities to be successful within this modality. Prior research has demonstrated that student self-motivation is essential (Fedynich, Bradley, & Bradley, 2015). Furthermore, the online student benefits by maintaining a system of organization within their online courses (Hong and Jung, 2011).

High Impact Practices

Virtual learning is often viewed from a deficit perspective; however, continued research and pedagogical exploration is proving that virtual learning is not only a matter of convenience, but also an option for rigorous learning opportunities (Montelongo, 2019).

High impact practices for the online classroom include, but are not limited to allowing opportunities for student reflection and instructing using various modes and mediums for content delivery (short videos, podcasts, guest speakers, infographics as well as other avenues of sharing content).

Furthermore, it is essential that the professor be accessible via email, zoom office hours or other avenues of connecting in order for students to feel engaged, cared for and supported in their learning. Relationships are essential to the success of the virtual classroom (Fink, 2016).

Culturally Relevant Pedagogy in an Online Modality

Gloria Ladson-Billings (1995) articulated and defined culturally relevant pedagogy as being comprised of three components:

1. Student Learning - The students' intellectual growth and moral development, but also their ability to problem solve and reason.
2. Cultural Competence - Skills that support students to affirm and appreciate their culture of origin while developing fluency in at least one other culture.
3. Critical Consciousness - The ability to identify, analyze, and solve real-world problems, especially those that result in societal inequalities.

Within this framework, virtual instructors must strive to meet these demands within diverse modalities. This can prove to be more challenging within the limitations of an online environment; however, with intentional efforts, these limitations can be overcome.

Pedagogy must be included that supports an understanding of various learning styles as well as various communication styles. Some specific strategies to consider include: video introductions, weekly overviews/agendas, video grade feedback, and synchronous live meetings (Montelongo, 2019).

The Use of Technology Tools

Faculty teaching online need to invest time in understanding the technology tools available to enhance their instruction and increase student engagement (Montelongo, 2019). While the Learning Management System provides a foundation and shell for the course, this should not be the lone form of technology use in an online course.

Theoretical Framework

This work is situated within the framework of the Community of Inquiry (CoI). Within this framework, the learning experience is defined by three presences: cognitive, social, and teaching (Garrison et al., 2000).

The cognitive presence is defined as the meaning making through discourse, reflection and critical thinking. Social presence is the creating of a safe learning environment characterized by the building of a community where all participants feel safe and comfortable to share and ask questions. Finally, the teaching presence consists of several components. First, is the design and organization of the learning experience. Next is the design of the learning experience to provide opportunities for discourse and engagement among the students and between the student and teacher. Finally, is the direct instruction from the teacher to share their expertise.

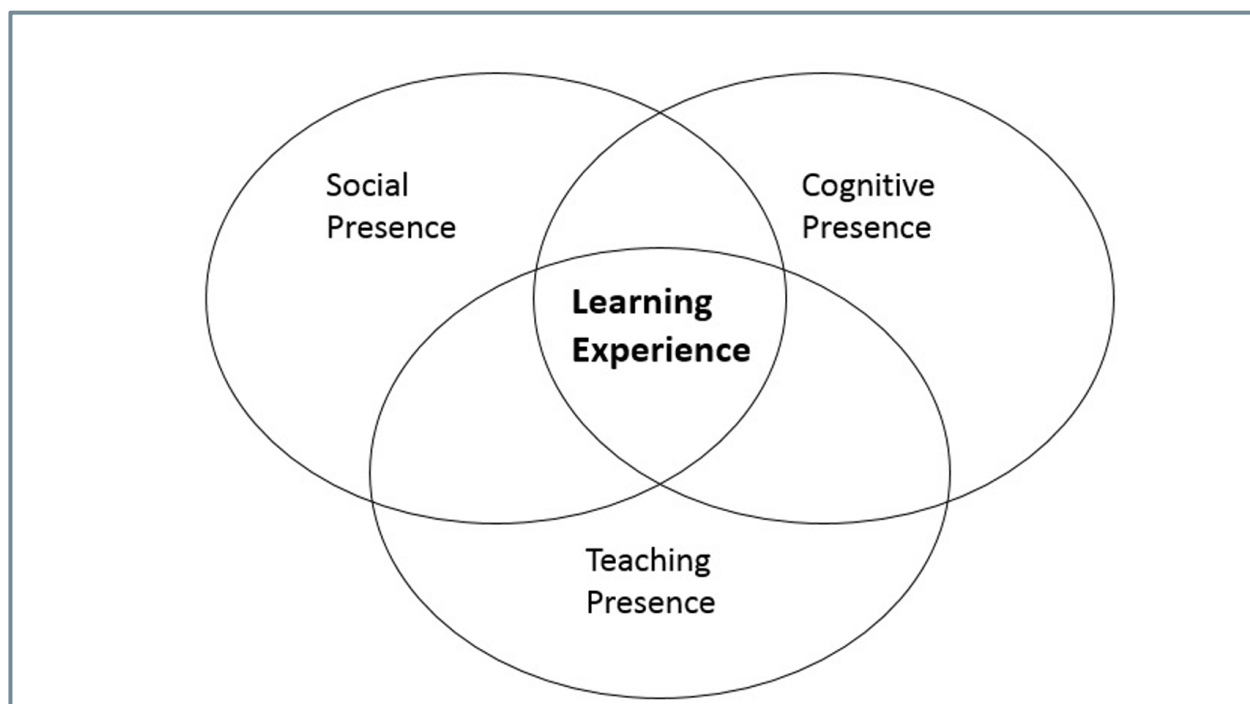


Figure 1: Community of Inquiry Framework

Structuring the Virtual Classroom

Utilizing the Community of Inquiry (CoI) Framework (Figure 1) can support educators in their design of online learning experiences. Pedagogy must be included that supports an understanding of various learning styles as well as various communication styles.

The initial success of an online learning environment is determined long before the first class session with the professor and students. The professor must invest substantial time in ensuring that the class is organized in a user-friendly method. Garrison states, “Designing a blended learning experience should start with organizing the content and activities. In addition, clear objectives for content and performance expectations will ensure a productive educational experience...it is crucial that the course outline, assignments, and grading rubric be posted well before the course begins” (35).

Students enrolled in online modalities benefit from professors that are highly responsive to emails and that create time for virtual meetings as needed. Finally, the online educator needs to lean on student feedback for continued reflection on their practices and organization of the Learning Management System (LMS), syllabus, and tentative schedule in order to promote continual improvement (Garrison, 43).

Best Practices for Culturally Responsive Teaching in a Virtual Classroom

Virtual learning is often viewed from a deficit perspective; however, continued research and pedagogical exploration is proving that virtual learning is not only a matter of convenience, but also an option for rigorous learning opportunities (Montelongo, 2019). Virtual instruction can successfully implement culturally relevant teaching practices as well. An initial place to start is to consider ways to build a community of learners, both between students and between student and teacher.

Building a community of learners is essential to creating an environment that provides rich learning experiences and opportunities for student growth. Many of the typical ways that educators utilize in traditional settings to build relationships can be modified for the virtual classroom.

Ice breakers can be incorporated to allow students opportunities to get to know one another. Whole class group ice breakers have a place, however, the researcher has discovered that using small breakout rooms lowers the affective filter of students and helps to foster student relationships.

Student to student and professor to student relationships are also fostered during the informal minutes prior to class and at the close of class. Additionally, breakout rooms can be used to mix and mingle students throughout the course in order to nurture discussions and allow students to learn from each other (Dean & Wagnon, 2024).

Routines and Procedures

Routines and procedures are essential to the success of an online class. According to Pamela Cantor, our brains are “prediction machines that like order” (2020). Students of all ages benefit from understanding the patterns and expectations of the class. During the first class, the instructor can support the students by discussing the organization of the LMS, sharing the best methods and times for contacting the instructor for support and help, and by sharing the basic structures and routines of the class including how class time will be spent, how work will be turned in, and how student collaboration will be facilitated.

Below are some additional structures and routines that may benefit the online class:

Use of Time Before and After Zoom/Online Platform

The time before the online class begins is prime time to greet students and support the students in feeling comfortable with an instructor that they won't likely ever see in person. This time prior to class and again at the end of class is also a time for students to ask questions that they may not feel comfortable asking in a group or are more private in nature.

Use of Camera

In a virtual environment, teaching to blank black boxes is the lowest form of teaching. The researcher strongly believes online teaching can never be optimal without the routine use of cameras to foster relationships, to hold students accountable for learning, and to give the instructor visual cues as to how the students are responding to the presented material.

For example, the use of cameras allows the instructor to gauge the class' understanding of the concept being taught. Nodding heads, smiles, and tilted heads all support an instructor in assessing the understanding of a class and help the teacher make in-the-moment instructional decisions.

The camera also acts to build routines for certain instructional strategies. In the researcher's class, when I have students complete a quick write or other individual activities that require time to process, I have my students turn off their cameras. They are instructed to turn on their cameras again once they have completed the assignment. This simple routine acts as a great

tool for the instructor to allow adequate time for students to complete various tasks while also giving students time to process without the added pressure of having the camera on.

Guest Speakers

Maintaining engagement and interest in the online class takes extra effort. The routine of inviting in guest speakers from time to time can allow students to learn from others. Guest speakers will present and engage students in ways that differ from the routine instruction and help maintain interest in the content of the course.

Expert Question & Answer Time

In most classes, students are more engaged when their own questions guide instruction. Time is well spent to devote instructional time to allowing for question and answer sessions with an expert panel. When I taught 8th grade English, we studied the Holocaust and read both *The Diary of Anne Frank* and *Night*. As a culminating activity, a panel of Holocaust survivors came in and shared with students. While this was in a traditional classroom, these types of activities still hold value in the online modality.

In my current role as a teacher educator, my student teachers benefit from planned time to ask questions to a panel of practitioners about the day-to-day questions they have as they learn to manage a class, design a lesson plan, and balance all of their responsibilities.

Breaks, Brain Breaks, and Activity Changes

Learning is optimized when we allow a time for general breaks to stretch and go to the restroom as well as brain breaks to re energize our learning. Depending on our age, we can only actively process information for 12-20 minutes. In a typical middle school period, the brain processes for 12-15 minutes before it cycles down for 10 minutes (Hammond, 2015). This is an important consideration in the traditional classroom, but vital in the virtual classroom as well.

There are many benefits to planned breaks and changes in activities. Switching up what we do in class eases exhaustion levels, lowers frustration levels and helps to refresh the mind for new learning (Immordino-Yang, et al, 2012).

Simple breaks that allow for movement, whether to allow for a bathroom break or an incorporated activity, increases blood flow to the brain, which helps with attention and focus. Research shows that students learn more quickly after they have exercised. In one study, students learned vocabulary words 20% faster after exercising (Schmidt-Kassow et al., 2013).

Additionally, the brain is attracted to novelty. The brain stays alert when there is a certain amount of change within the structure of the class. Sometimes, the modifications can be very simple. Perhaps you tend to use Google Slides and decide to incorporate Pear Deck for a lesson or rather than using the chat feature in Google, you use mentimeter to gather responses.

Here are some links to activities that allow for brain breaks:

- <https://quickdraw.withgoogle.com/>

This application prompts users to sketch, on their phone or other device, simple images. While the user is sketching, the application will guess what has been drawn. This provides a quick and easy break for students and can also be used to introduce the topic of sketch noting:

- <https://www.youtube.com/watch?v=W2e5Sm5xisw>

There are many videos like this on youtube. This is a Name that Tune Activity and can be used in a variety of ways in a virtual classroom. Use it as a quick entry activity, brain break, or transitional activity:

- <https://www.youtube.com/watch?v=cZdO2e8K29o>

This video walks students through a three-minute instructional video to create an origami butterfly:

- <https://www.youtube.com/watch?v=c1Ndym-IsQg>

This video is a short meditation that may be useful to embed within an online class as well. Incorporating breaks into the online class will support students' attention level and engagement and is an important component to the successful lesson planning of online educators.

Have Fun Structuring Your Online Class

Online teaching allows for flexibility in course delivery. One strategy that has been successful for the researcher is to structure my teaching schedule to have two synchronous courses followed by an asynchronous course. While I understand that this may not be possible for all situations, as educators, we should be comfortable in trying out new pathways to teaching.

My students have enjoyed that we meet as a community two times in a row and interact together and see one another; however, they appreciate that every third session is asynchronous. This allows them some flexibility as to when they complete the work and gives them a break from being online.

To keep students organized during our asynchronous sessions, I provide Google Slides similar to what they are accustomed to seeing during our synchronous sessions; however, they are also given a link to a Google Form. This Google form is utilized to gather their answers to questions I have embedded throughout the asynchronous Google slides.

Pedagogical Practices and Choices

The pedagogical practices and choices designed by the online educator are essential to promoting a CRT environment. Some methods are easy to implement. Instructors can incorporate readings from various perspectives and cultures as well as using the zoom background to showcase various images and art from a multitude of cultures. (AVID, 2022). However, other ideas may take more planning.

Voice and Choice

Voice and choice are important in all types of learning, but must not be ignored in the online class. Voice and choice allow students the freedom to explore topics of interest to them while staying within the guidelines provided by the instructor. Voice and choice also allow students

to demonstrate their learning in a variety of ways from traditional assessments to project based learning opportunities. Allowing students agency in this way supports culturally responsive teaching.

Build Vocabulary

Inequities in academic settings often stem from a student's differing access and understanding of academic vocabulary. According to the Common Core State Standards, "It is widely accepted among researchers that the difference in students' vocabulary levels is a key factor in disparities in academic achievement ... but that vocabulary instruction has been neither frequent nor systematic in most schools" (2014).

The culturally responsive teacher, whether in a face-to-face or virtual setting, will invest time in supporting students in the development of academic vocabulary. Wordle and Tagul are wonderful tools that can support both instructor and student in targeting academic vocabulary. These sites create word clouds from documents. The more often a word is used, the larger it appears within the word cloud. Teachers can use this to create a visual of important vocabulary words that should be pre-taught to students before delving into a complex text. Furthermore, students may find these sites supportive of their writing in identifying word choices that they may overuse in their academic writing. Please continue reading for a sample of vocabulary acquisition strategies that can be helpful in many learning environments.

KIM Strategy.

This strategy utilizes the acronym KIM to support the learning of new vocabulary.

- K - Key Vocabulary
- I - Important information/user-friendly definition
- M - Visual that acts as a memory device

Then students should write a context-rich sentence to show understanding of the vocabulary word.

In a traditional setting, flash cards work great for this exercise and become a study tool to support students in learning the new vocabulary words. However, this can also be utilized virtually by creating the KIM graphic organizer within a google document or google slides. Students can work on this independently or within small groups.

Fruyer Model.

The Fruyer Model is another valuable tool for academic vocabulary instruction. This particular strategy works best with larger concepts since students must include a definition and facts/characteristics, but also examples and non-examples.

As with the KIM strategy, this can be adapted to be used within google docs or slides. Students could collaborate on slides and present their information out to the whole class to learn various concepts within a unit.

These strategies and many others are important to utilize in instruction to support all students in having access to the curriculum. Eric Jensen, shares, "Vocabulary instruction for adolescents shows not only increases in gray matter but that the increased density of gray matter was correlated with higher vocabulary test scores" (2016).

Engagement Strategies

Maintaining student engagement in an online setting takes diligent effort. Traditional learning settings provide plenty of challenges to engagement; however, the virtual student is at home with all of the distractions of family, friends, and the access to their own environment. Furthermore, distractions via technology are always present. Students can be present in the classroom, while playing video games, answering emails, texting and browsing the internet. Instructors must do their best to hold students accountable and engaged despite all of these challenges.

Gestures.

The use of gestures is still a viable option for the online classroom. If students are using their cameras, they can visually show you their hand gestures; however, they will also have the option of showing you a virtual thumbs up or an emoticon to interact with the content and questions posed by the instructor.

Scavenger Hunt.

Incorporating activities that allow for movement within an online class keeps students alert. Even in adult classes, the use of a scavenger hunt can be incorporated for various purposes. For example, an instructor can place small groups of students in break out rooms and task them with finding out what they have in common. Once they have decided on something they have in common, they must find an item in their house that symbolizes the commonality. This can be repeated with discussions on what characteristics are different within the group. These ideas can also be adapted to coincide with the course content.

Use of the Chat Feature.

The chat feature allows for student interaction. Instructors can have students respond to a warm up question, rate their level of agreement to various statements, and ask questions privately to the instructor.

Google Slides for Groups.

Google slides allow for small group and whole class collaboration. Students can be placed in breakout rooms to create Google slides as directed by the instructor. The teacher can also create Google slides and assign individuals specific slides to complete. Google slides are a simple way to facilitate engagement and accountability within a lesson.

Technology Tools

Technology tools offer today's educators great options to support student engagement within virtual learning. While no one can be an expert in all of the tech options available, each educator can become adept at several that serve their context.

Mentimeter.

This is a tool I began using during COVID. There are so many varieties of ways to engage students and gather information with this tool. Mentimeter can create word clouds based on student answers, create rankings and scales, as well as making use of the multiple choice and open-ended format.

What Else?

Other technology tools that are supportive of online learning include Kahoot, Edpuzzle, Jamboard, Quizizz, and Flipgrid. There are endless possibilities with more tools being developed daily. Educators should strive to master a few new tools every few months to continue to aid students in engagement and to increase the novelty of presentation and accountability methods (Dean & Wagnon, 2024) .

Appropriate Assessments for Online Learning

Assessment in the online classroom is still vital for the instructor to make instructional decisions throughout the course. Please read below for ideas that extend beyond the traditional test and quiz.

Oral Presentations.

Think fast paced. Students present on a brief topic to the class in 5 minutes or less utilizing 15 slides.

Digital One Pager.

Students create some type of visual presentation to share what they understand about the assigned topic. This could be a google slide, graphic organizer, word cloud, or other type of visual representation. Students could also do a one-page written reflection.

Recorded Small Group Sessions.

Students can be assigned to meet in small groups to collaborate and discuss assignments. These sessions can be recorded and sent to the instructor (Dean & Wagnon, 2024).

Conclusions

Virtual instruction necessitates the delivery of culturally responsive strategies. This pedagogy is responsive to student needs and affirming of student cultures. CRT also supports the motivation of students and supports critical thinking. The virtual culturally responsive teacher must be continually reflective of their practices and seek the feedback of their students in order to create meaningful learning experiences that hold the promise of rigor, strong collaborations and the sharing of ideas. The virtual classroom holds the potential to be all of this and more with the intentionality of the instructor and the engagement of the student.

References

- Dean, H. & Wagnon, A.E.(Eds.). (2024). *Pursuing practical change: Lesson plans that promote culturally responsive teaching*. Rowman & Littlefield Publishing Group.
- Fedynich, L., Bradley, K. S., & Bradley, J. (2015). Graduate students' perceptions of online learning. *Research in Higher Education Journal*, 27. Retrieved from <https://files.eric.ed.gov/fulltext/EJ1056187.pdf>
- Fink, L. D. (2016). Five high impact teaching practices: A list of possibilities. *Collected Essays on Learning and Teaching*, 9, 3-18.
- Garrison, D. R. (2011). *E-learning in the 21st Century: A framework for research and Practice*. Routledge.
- Hong, S., & Jung, I.S. (2011). The distance learner competencies. A three-phased empirical approach. *Educational Technology Research and Development*, 59(1), 21-42.
- Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32(3), 465-491.
- Montelongo, R. (2019). Less than/more than: Issues associated with high impact online teaching and learning. *Administrative Issues Journal Education Practice and Research*, 9(1). <https://doi.org/10.5929/9.1.5>
- Vaughan, N. D., Cleveland-Innes, M., & Garrison, D. R. (2013). *Teaching in blended learning environments: Creating and sustaining communities of inquiry*. AU Press.

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Exploring the Culinary Landscape in Children's Literature

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Abstract

The relationship between children's literature and food serves as a captivating lens through which to examine cultural, social, and educational dimensions. This research delves into the rich tapestry of narratives where food takes centre stage, influencing young readers' perceptions and understanding of the world. From enchanted banquets in fairy tales to the depiction of diverse cuisines in contemporary stories, this study investigates the symbolic, cultural, and educational roles of food within the realm of children's literature. By scrutinizing a diverse range of texts, spanning picture books to middle-grade novels, our exploration seeks to uncover patterns and representations of food that contribute to the development of culinary literacy in young minds. Furthermore, we aim to unravel how these literary portrayals shape children's attitudes toward food, nutrition, and cultural diversity. This interdisciplinary research draws on theories from children's literature studies, cultural studies, and education to illuminate the multifaceted ways in which food functions as a literary device. Our findings not only contribute to the scholarly discourse on children's literature but also hold implications for educators, parents, and policymakers interested in fostering a holistic approach to childhood development. As we navigate the pages of children's literature, we embark on a sensory journey where words and flavours converge to nourish not only the characters but also the imagination of young readers. Through this exploration, we aim to deepen our understanding of the subtle yet profound impact that literary representations of food can have on shaping the palates and perspectives of the next generation.

Keywords: Children's Literature, Food Discourse, Culinary Landscape, Cultural Diversity, Gastronomic Elements

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Introduction

Children's literature has long served as a gateway to imagination, adventure, and discovery, inviting young readers to explore worlds both familiar and fantastical. Among the many themes that weave through these stories, food and culinary traditions play a significant role, often evoking a sense of comfort, nostalgia, and curiosity. From the enchanted feasts in fairy tales to the humble, heartwarming meals in contemporary narratives, food scenes in children's books do more than satisfy hunger—they enrich storytelling by offering cultural insights, character development, and thematic depth. This exploration of the culinary landscape in children's literature delves into how these gastronomic elements shape young readers' understanding of the world, foster a love for diverse cuisines, and highlight the universal importance of sharing meals. Through this lens, we will uncover how food in children's books transcends mere sustenance, becoming a powerful literary device that nourishes both body and soul.

The depiction of food in children's literature is multifaceted, reflecting the rich tapestry of global cultures, traditions, and personal experiences. These culinary elements often serve to:

Illustrate Cultural Diversity

Children's books frequently use food to introduce young readers to different cultures and traditions. For instance, in Grace Lin's "Dim Sum for Everyone!", the communal experience of sharing dim sum highlights Chinese cultural practices, while in "The Breadwinner" by Deborah Ellis, the food scenes provide insights into Afghan cuisine and customs. Such depictions encourage children to appreciate and respect cultural diversity from an early age.

Enhance Storytelling and Character Development

Food is also a powerful tool for character development and plot progression. In J.K. Rowling's "Harry Potter" series, the elaborate descriptions of feasts at Hogwarts not only create a magical atmosphere but also deepen the reader's connection to the characters and their world. Similarly, in Roald Dahl's "Charlie and the Chocolate Factory", the fantastical confections serve as a metaphor for Charlie's journey from poverty to wealth and happiness, emphasizing themes of hope and reward.

Symbolize Themes and Emotions

In many stories, food symbolizes broader themes and emotions. For example, in Laura Ingalls Wilder's "Little House" series, the detailed accounts of pioneer meals reflect themes of survival, family unity, and the pioneering spirit. The comfort of homemade meals in the face of hardship underscores the resilience and resourcefulness of the Ingalls family.

Foster Emotional Connections and Memories

Food in children's literature often evokes strong emotional responses and memories, creating lasting impressions. The simple yet poignant meals in "The Tale of Peter Rabbit" by Beatrix Potter remind readers of the importance of home and safety, while Maurice Sendak's "In the Night Kitchen" celebrates the whimsical and adventurous aspects of food, sparking imagination and joy.

Encourage Positive Attitudes Towards Food

Books like Eric Carle's "The Very Hungry Caterpillar" play a crucial role in shaping young readers' attitudes towards food. Through the caterpillar's diverse and colorful diet, children learn about the importance of varied nutrition and the pleasures of eating. Similarly, stories like "Green Eggs and Ham" by Dr. Seuss encourage trying new foods and embracing culinary adventures.

Address Social Issues

Children's literature also uses food to address social issues such as poverty, hunger, and social justice. In books like "Stone Soup", a classic folktale retold by many authors, the communal act of making soup serves as a lesson in cooperation, generosity, and the power of community. Katherine Paterson's "The Great Gilly Hopkins" touches on issues of foster care and belonging, where shared meals become moments of connection and understanding.

By exploring these various dimensions, we can see that the culinary landscape in children's literature is not just about what characters eat, but about what those meals represent in the broader context of their lives and experiences. This exploration reveals the profound impact that food can have in storytelling, shaping narratives that resonate deeply with young readers and leave a lasting legacy in the literary world.

Conclusions

In conclusion, the culinary landscape in children's literature is a vibrant and multifaceted element that enriches storytelling in profound ways. Through the depiction of diverse foods and meals, these stories introduce young readers to a tapestry of cultural traditions and culinary practices, fostering a deep appreciation for diversity. The incorporation of food scenes serves as a powerful tool for character development, plot progression, and the illustration of broader themes and emotions, creating a more immersive and relatable reading experience.

Moreover, food in children's books often evokes strong emotional connections and memories, making the narratives more impactful and memorable. By addressing social issues and encouraging positive attitudes towards food, these stories not only entertain but also educate and inspire young readers to embrace new culinary adventures and understand the significance of shared meals.

Ultimately, the portrayal of food in children's literature transcends its role as mere sustenance, becoming a rich, symbolic, and integral part of storytelling. It nurtures the imagination, broadens cultural horizons, and underscores the universal importance of food in bringing people together, fostering empathy, and celebrating life. As such, the culinary elements in children's books play a crucial role in shaping young minds and hearts, leaving an enduring legacy in the world of literature.

Acknowledgements

We would like to express our gratitude to the authors, illustrators, and publishers of children's literature whose creative works have inspired and enriched countless young minds. Their

ability to weave culinary elements into storytelling has provided readers with a deeper understanding of diverse cultures, traditions, and the universal significance of food.

Special thanks to educators and librarians who introduce these treasured books to children, fostering a love for reading and an appreciation for the culinary arts. Your dedication to nurturing young readers is invaluable and greatly appreciated.

Finally, a heartfelt thank you to the readers and their families who bring these stories to life in their homes, kitchens, and hearts. Your engagement and enthusiasm ensure that the rich culinary landscapes in children's literature continue to inspire and resonate for generations to come.

References

- Carle, Eric. "The Very Hungry Caterpillar". New York: World Publishing Company, 1969.
- Dahl, Roald. "Charlie and the Chocolate Factory". New York: Alfred A. Knopf, 1964.
- Ellis, Deborah. "The Breadwinner". Toronto: Groundwood Books, 2000.
- Lin, Grace. "Dim Sum for Everyone!". New York: Alfred A. Knopf, 2001.
- Paterson, Katherine. "The Great Gilly Hopkins". New York: Thomas Y. Crowell Co., 1978.
- Potter, Beatrix. "The Tale of Peter Rabbit". London: Frederick Warne & Co., 1902.
- Rowling, J.K. "Harry Potter and the Sorcerer's Stone". New York: Scholastic, 1998.
- Sendak, Maurice. "In the Night Kitchen". New York: Harper & Row, 1970.
- Seuss, Dr. "Green Eggs and Ham". New York: Random House, 1960.
- Various Authors. "Stone Soup". Various publishers and retellings.
- Wilder, Laura Ingalls. "Little House on the Prairie". New York: Harper & Brothers, 1935.

Resources

- "American Library Association (ALA)": Provides reviews and recommendations for children's books, often highlighting those that explore diverse cultural experiences through food. [ala.org] (<http://www.ala.org/>)
- "Children's Book Council (CBC)": An excellent resource for discovering a wide range of children's literature, including books that feature culinary themes. [cbcbooks.org] (<https://www.cbcbooks.org/>)
- "Children's Literature Association (ChLA)": An academic organization that promotes the study of children's literature, including themes related to food and culture. [childlitassn.org] (<https://www.childlitassn.org/>)
- "Food in Literature Blog": A blog dedicated to exploring the role of food in literature, including children's books. It offers reviews and discussions of various books that feature food prominently. [foodinliterature.com] (<https://www.foodinliterature.com/>)
- "Goodreads": A social cataloging website where you can find lists and reviews of children's books with culinary themes. [goodreads.com] (<https://www.goodreads.com/>)
- "The Horn Book": A publication that reviews and discusses children's and young adult literature, often highlighting books with significant culinary content. [hbook.com] (<https://www.hbook.com/>)

“Library of Congress”: Provides access to a vast collection of children’s books and resources, including those that explore culinary traditions. [loc.gov] (<https://www.loc.gov/>)

“Scholastic”: Offers a variety of children’s books, including many that feature food and culinary adventures, along with educational resources for parents and teachers. [scholastic.com] (<https://www.scholastic.com/>)

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***Meanings and Expressions of Filial Piety (Xiao):
Understanding Chinese Intergenerational Relationships***

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Abstract

Filial piety (xiao) is one of the most important concepts to understand Chinese intergenerational relationships. The current study examined the definitions and expressions of filial piety, as well as differences between gender, generations, and only-child young adults and those with siblings. Reciprocating love to parents, pleasing parents, communication, sharing parents' burden, self-achievement, and taking care of parents were the most common definitions and expressions of filial piety. Female participants were more likely to list reciprocating parents love, pleasing parents, helping with housework, taking care of parents, and improving parents' living conditions than did male participants. Young adults believed the older generation focused more on material support, were more obedient and more filial, while the younger generation considered more on the emotional need of their parents. Only-child participants were more likely to list communication with parents as filial piety. Limitations and implications of the study were discussed.

Keywords: Filial Piety, Chinese, Intergenerational Relationship

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Introduction

Filial piety (*xiao*) is one of the most important concepts to understand Chinese intergenerational relationships (Ho, 1996). It was introduced to the Western world by both Chinese scholars (e.g., Lang, 1946; Lin, 1935) and Western scholars (e.g., Levy, 1949) in their books on Chinese people and families more than half a century ago. Not until the last two decades, however, has this concept been extensively studied by social scientists in psychology, nursing, sociology, and gerontology. Still, very few communication scholars have explored this concept systematically. Thus, the current study aims to examine filial piety from a communication perspective, mainly how people define and express filial piety.

Goodwin and colleagues have stressed the importance of studying personal relationships in non-Western cultures (Goodwin & Pillay, 2006; Goodwin & Tang, 1996). A non-Western approach not only helps check the assumptions of most Western relationship research but also has important practical implications (See Goodwin & Pillay for review). The concept of filial piety deserves research attention mainly because such a study “contributes a body of knowledge about the cultural definition of intergenerational relationships, of curial importance to understanding the transmission of culture from one generation to another” (Ho, 1996, p. 156). In addition, studying Chinese close relationships has its unique significance. China is the fastest-growing country in the world. Its economy has gone from sixth in the world in 2003 (Croll, 2006), to third in 2009, and to second August 2010 surpassing Japan. With the increasing interaction between China and the outside world, the number of interracial relationships in China is also on the rise (cited in Zhang & Kline, 2009). A study of Chinese intergenerational relationships would offer some practical implications for interracial relational partners.

Review of Literature

The idea of filial piety is deeply rooted in the Confucian belief that an individual’s life is a continuation of his/her parents’ lives (Hwang, 1999). In essence, traditionally filial piety emphasizes various obligations children have to fulfill towards their elders. As Ho (1996) describes:

It (filial piety) prescribes how children should behave towards their parents, living or dead, as well as towards their ancestors. It makes stringent demands: that one should provide for the material and mental well-being of one’s aged parents, perform ceremonial duties of ancestral worship, take care to avoid harm to one’s body, ensure the continuity of the family line, and in general conduct oneself so as to bring honor and avoid disgrace to the family name. (p. 155)

The basic components in the above definition of filial piety correspond with how it was measured in Chinese Culture Connection (1987): obedience to parents, respect for parents, honoring ancestors, and financial support to parents. Ho (1996), however, argues that filial piety is an “encompassing ethic, much more than what the items express” (p. 164). A few other studies have revealed more specific meanings of the concept. In addition to respect, obedience, and financial support, Cheng, Kwan, and Ng (2006) used three other items to operationalize filial piety including caring, showing regards, and pleasing. Similarly, thematic analysis by Tsai, Chen, and Tsai (2006) indicated Taiwanese college students view filial piety in five aspects: reciprocating parents’ love and care, loving parents, fostering

intergenerational well-being, a cultural tradition, and contextual dependence in terms of filial piety practice.

Social Economic Change

As indicated earlier, China has gone through enormous social and economic changes since 1970s, especially during the last two decades. To what extent has social change transformed people's traditional beliefs? Two groups of research have produced contrasting results. The first group suggests rapid social change has impacted beliefs, rituals, and communication practices in Chinese close relationships. For example, Yue and Ng (1999) argue that fast industrialization in China has enabled the younger generation to acquire financial success at a much younger age, which allows younger generations to live in separate households from their parents. Thus, face-to-face contact and potential conflicts have been reduced between generations within households. As a result, Ho (1996) suggests that one does not have to abide by the traditional sense of filial piety such as absolute obedience to parents and carrying on family lines to remain filial to their parents. Traditional beliefs are declining. In addition, adult children's busy working schedules and the geographical distance between parents and children have changed people's perception on placing elderly parents to institutional care (Zhan, Feng, & Luo, 2008), although traditionally taking of aging parents had been a common practice for almost 2,500 years based on filial piety beliefs (Gu & Liang, 2000).

A second group of research indicates that some traditional beliefs persist despite rapid social and economic change. For example, Deutsch (2004) found that some Chinese students were still surprisingly obedient to their parents. She suggests collectivistic family values such as filial beliefs are still prevalent in China. Similarly, Chappell and Kusch (2007) suggest that the ideals of filial piety have remained intact, although the practice of filial piety has changed during the "multiple, complex, and sometimes contradictory forces" (p. 33) that have conducted in China during the last 60 years.

The above review suggests that social change may or may not have changed people's view of filial piety. The following research questions are proposed in order to find out how filial piety is viewed and expressed by Chinese young adults during the rapid social and economic changes.

RQ1: How is filial piety defined by Chinese young adults?

RQ2: How is filial piety is expressed by Chinese young adults?

RQ3: What behaviors/acts are considered un-filial by Chinese young adults?

Gender Similarities and Differences

Traditionally, males hold more responsibility to carry out filial piety obligations than do females. Quite a few studies in the literature suggest that men focus more on financial support for their parents, while women are more likely to provide emotional care. Zhan, Feng, and Luo (2008) found that daughters and daughters-in-law spent more time caring for the elders' emotional well-being, whereas sons cared more about the elders' financial situations. In a similar vein, Yue and Ng (1999) found that compared with female participants, males felt more obligation to look after their family elders and to help them financially. Female participants, on the other hand, were more likely to maintain contact with older people in the family.

Still, a few other studies yield more complex results. Chen, Bond, and Tang (2007) revealed significant gender differences in terms of filial attitudes, but not in filial behaviors. Male participants in their study rated higher in filial attitudes than did females. Chen et al. suggest that males are more concerned with parents' material support, while females tend to be more attached to their parents emotionally. Another study by Ho (1993, cited in Ho, 1996) found women showed stronger filial attitudes toward their parents than men. Further, Chappell and Kusch (2007) indicated that sons and their spouses were more likely to provide support of instrumental activities of daily living, while daughters were more likely to assist with heavy care. Both genders were willing to help out with opposite-gender tasks.

RQ4a: Are there any differences between male and female Chinese young adults in their definitions of filial piety?

RQ4b: Are there any differences between male and female Chinese young adults in their expressions of filial piety?

Only-Children vs Children With Siblings

The “one couple, one child” policy was initiated in 1979 (Scharping, 2003, cited in Liu, 2008). Most people who were born in cities after 1979 were only-children, whereas in rural areas the only-child policy wasn't quite as successful (Liu, 2008). A lot of rural families still have more than one child especially when the first born was a girl. In any case, the first generation of only children has grown up. Obligation to take care of their parents might be a big challenge for only-children than those with siblings.

By interviewing college students about their life plans, Deustch (2006) found only-children were more likely to consider their parents' emotional needs as an important factor in their location of future jobs than were children with siblings. Seventy one percent of only children, compared with 31% of children with siblings, expressed their intention to live in the same city with their parents after graduation from college. In addition, only-child sons felt more responsibility towards their parents' emotional well-being than only-child daughters. Deutsch suggests that filial beliefs are still prevalent among Chinese college students. The one-child policy did not affect children's filial duty. Only-children were as likely to help their parents in the future as children with siblings. Similarly, in-depth interview data by Liu (2008) indicate only-children have strong filial beliefs towards their parents and are ready to fulfill their filial duties, although they struggle between individual self achievement and a sense of burden regarding filial duties. In addition, Liu found only-child daughters are as ready as single-child sons to take care of their parents.

RQ5a: Are there any differences between only children and children with siblings in their definitions of filial piety?

RQ5b: Are there any differences between only children and children with siblings in their expressions of filial piety?

Intergenerational Differences

Filial piety beliefs are passed on from one generation to the next generation. The fast social and economic changes in China, however, have brought challenges to “intergenerational cohesion and maintenance of filial practice” (Yue & Ng, 1999, p, 216). For example, Cai, Giles, and Noels (1998) found older adults were seen as more close-minded and controlling than were younger groups. In terms of filial beliefs, Yue and Ng indicated that young

participants' felt obligations towards elder people in terms of "looking after them" and assisting them financially" exceeded older participants' expectations. However, old participants expected younger generation to obey them more than young participants felt obligated. To explain the findings, Yue and Ng suggest Chinese elders are puzzled at "what influences they should exert on young people and what reciprocity they should expect from them" (p. 222).

RQ6: What are the intergenerational differences in definitions (6a) and expressions (6b) of filial piety?

Methods

Participants, Procedures, and Measures

A total of 260 college students from one medium-sized university in Eastern China participated in the study. One hundred forty-one of them were male, 108 female, and 11 missing data. The average age of the participants was 21.18 ($SD = 1.23$). The average age of participants' parents was 48.03 ($SD = 4.44$). All participants were juniors at the time of the survey. They filled out the questionnaires in class and returned to their professors at the end of class in exchange for extra credit.

Participants responded to four open-ended questions that were part of a larger survey on parent-child relationships. The four questions were: a) What does filial piety mean to you? In other words, how do you define filial piety in your own words? b) What do you do or say to express your filial piety to your parents? c) Are there any differences between your and your parents' generation in the understanding and expressions of filial piety? d) What behaviors/acts do you consider as un-filial?

Results

Data Coding

Open-ended responses to the questions were coded using analytic induction methods (Bulmer, 1979). The first author, a native Chinese speaker who teaches at a U.S. university, trained three other co-authors, one exchange professor from China, and two Chinese undergraduate students for data coding. For each open-ended question, categories were made, and data were coded in the following steps. First, the research team (all four co-authors) read the same 30% of the data and came up with their own categories separately based on the themes they had seen in the data. Second, the team met to discuss the possible categories. The discrepancies were discussed among the team to find the best fit for the data. A list of categories was then created after repeated comparisons and negotiations and were later used to recode the 30% of the data. The final categories were decided after more discussion and refinement. Third, the second author coded the rest of the data with the final schemes.

Coding reliabilities were conducted by the two undergraduate students, who coded the same 20% of random data. Cohen's Kappa was used to calculate the reliability coefficients. Unitizing differences were solved based on the recommendation of Simon (2006). The Kappa coefficients indicated good coding reliabilities: .70 for meanings of filial piety, .62 for expressions of filial piety, .95 for intergenerational differences, and .71 for un-filial behaviors.

Meanings/Definitions of Filial Piety

Two hundred forty-three participants out of 260 participants listed a total of 613 items ($M = 2.52$) in 11 categories (See Table 1). The most common themes were reciprocating parents' love ($n = 122$; "I believe filial piety is first and foremost a return of love to parents. Parent brought us to this world, raised us, and educated us. We must return it for the rest of our life."); pleasing parents ($n = 105$; "Not only make sure they have food and shelter, but also make them feel happy."); self-achievement ($n = 83$; "Parents want us to grow up, to succeed, and to achieve something. Do not let them down, which is the best way to return their love."); thinking from parents' perspective ($n = 74$; "Be considerate, understanding, and caring."); and respect ($n = 57$; "Filial piety is to show respect to parents. Respect their opinions. Tolerate them if they do not understand me."). Other definitions of filial piety included: communication ("Financial assistance is not enough. More important is to communicate with them heart to heart."); obligation ("Filial piety is children's obligation to parents."), obedience ("Filial piety is to obey your parents whole-heartedly."); listening, but not absolute obedience ("Obedience is core of filial piety. We listen when their opinions are right. We must skillfully let them know if we do not agree with what they say."); love ("Filial piety is a type of love, a love to parents and elders."); and helping parents in difficulty ("When they get sick or are financial trouble, we help them out.").

Table 1: *Meanings/Definitions of Filial Piety*

Categories	Examples	Total Frequency	Gender		Single Child?	
			M	F	Yes	No
Reciprocating parents' love	"Filial piety is returning favors, a way to give back what you have received." "Do not ask too much from your parents. Always appreciate and be thankful."	122	58	60	28	88
Pleasing parents	"Do not make parents feel upset." "Make them happy."	105	48	53	25	76
Self-achievement	"Filial piety is sometimes to live a happy life yourself, not let them worry about you." "Filial piety is the hope your parents see in you."	83	50	32	15	66
Thinking from parents' perspective	"Think from their perspective. Be considerate."	74	37	37	12	62

Respect	“Filial piety should be based on respect.” “Respect parents and listen to them.”	57	29	26	13	42
Communication	“Filial piety is not only take care of parents financially, but also communicate with them.”	42	20	20	7	32
Obligation	“Filial piety is responsibility and obligation to take care of parents when they are old.”	38	16	21	11	26
Love	“Filial piety is to love parents.” “Filial piety is to love parents in return.”	34	16	18	13	21
Obedience	“Listen to parents.” “The simplest form of filial piety is to listen to parents.”	31	21	9	8	22
Not absolute obedience	“Filial piety does not mean absolute obedience. We need to have our own opinions.”	13	5	8	5	8
Helping out parents in difficulty	“We help out parents when they are in difficulty.”	9	4	4	0	7
Other		5	4	1	0	5
Total		613	308	289	137	455

Expressions of Filial Piety

Two hundred thirty-nine participants listed 642 specific behaviors to express filial piety ($M = 2.69$) in 11 different categories (See Table 2). The most common ways to express filial piety were communication ($n = 95$; “Talk to my parents. Tell them my studies and life in college.”); pleasing parents ($n = 89$; “I call and tell them I am doing well. I did not tell them if I felt sad. I did not want them to feel worried.”); sharing their burden ($n = 87$; “When they feel sad, I comfort them. When they feel tired, I do what I can to help so that they can rest.”); taking care of parents ($n = 86$; “Cook for my parents and make tea for them.”); helping with housework ($n = 78$; “Help them with housework.”) and giving gifts to them ($n = 67$). Other ways to express filial piety were: to respect and obey, to improve parents’ living condition, not to waste money, and not to get into trouble.

Table 2: *Expressions of Filial Piety*

Categories	Examples	Total Frequency	Gender		Single Child?	
			M	F	Yes	No
Communicate	“Call them often. Communicate our feelings.”	95	55	40	20	73
Please parent	“I massage back for my mom. Tell jokes to make her happy.”	89	42	44	23	63
Share their burden	“I share both happiness and sadness with my parents. I try my best.”	87	54	30	15	67
Take care of parents	I would say to my father “Dad, I miss you. Do not drink too much alcohol. Be careful when driving.”	86	38	44	21	60
Help with housework	“Cook when they are busy.”	78	30	46	18	58
Improve myself	“I study hard and try not to let them down.” “I work hard to try to meet their expectations.”	73	41	30	15	55
Give gifts	“I give them gifts at different festivals.” “I send them gifts for their birthdays.”	67	22	43	21	44
Respect/obey	“I respect and obey their wishes. I try to avoid conflict with them.”	33	20	11	7	24
Improve parents’ living condition	“I try to get a well-paid job so that my parents can live the best life.”	17	5	11	3	7
Don’t waste money	“Never waste any money” “Spend money wisely.”	12	8	4	2	9
Don’t get into trouble	“Try not to get into trouble”	5	4	1	2	3
Total		642	319	304	147	463

Un-filial Behaviors/Acts

Two hundred thirty-seven participants listed 527 specific behaviors that were considered as un-filial to parents ($M = 2.22$), which were coded into 8 categories (See Table 3). The un-filial behaviors were: not showing respect ($n = 154$), not being considerate ($n = 100$), letting parents worried ($n = 66$), giving burdens to parents ($n = 57$), not taking care of parents ($n = 57$), and not improving self ($n = 51$), committing a crime ($n = 24$), and not fulfilling parents’ wishes ($n = 16$).

Table 3: *Un-filial Behaviors*

Categories	Examples	Total Frequency	Gender		Single Child?	
			M	F	Yes	No
Not showing respect	“Quarrel with parents.” “Insult parents.” “Look down up parents.”	154	82	68	40	109
Not being considerate	“Not visiting parents often.” “Abuse parents. Do not communicate with them.”	100	53	43	24	72
Letting parents worried about you	“Make them angry.” “let parents worry about you.”	66	31	34	16	49
Giving burden to parents	“Waste money. Waste food.” “Spend parents’ money unwisely.” “Do not help parents with what they could.”	59	32	24	13	43
Not taking care of parents	“Do not provide support needed.”	57	32	22	14	39
Not improving self	“Do not work hard.” “Play too much.” “Not being responsible.”	51	25	24	13	36
Committing crimes	“Commit suicide. Do other bad things.’ “Cause troubles everywhere.’ “Commit a crime.”	24	10	13	6	16
Not fulfilling parents’ wishes	“Not meeting expectations of parents.” “Do not have children to carry on the family line.”	16	7	8	4	11
Total		527	272	236	130	375

Gender Similarities and Differences

RQ4a and RQ4b asked if there were any differences between male and female Chinese young adults in their definitions and expressions of filial piety. A series of Chi-Square analyses were conducted to compare the two groups. In terms of definitions of filial piety, female participants listed more reciprocating parents love ($\chi^2 = 5.10, p < .05$), pleasing parents ($\chi^2 = 5.73, p < .05$) than did male participants. In terms of expressions of filial piety, more female participants listed helping with housework ($\chi^2 = 13.01, p < .001$), taking care of parents ($\chi^2 = 5.27, p < .05$), and improving parents’ living conditions ($\chi^2 = 4.48, p < .05$). No other significant differences were found.

Differences Between Only-Children and Children With Siblings

RQ5a and RQ5b asked if there was any difference between only-child young adults and young adults with siblings in their definitions and expressions of filial piety. Only one significant difference was obtained. Only-children were more likely to list communication with parents as filial piety ($\chi^2 = 6.60, p < .05$).

Intergenerational Differences

RQ6a and RQ6b asked if Chinese young adults perceived any differences between their generation and their parents' generation in terms of definitions and expressions of filial piety. Around 30% of the participants ($n = 75$) believed there was no differences between the generations, 65% ($n = 151$) thought there were some differences, and 2% ($n = 5$) never talked about it.

In general, young adults believed the older generation focused more on material support, were more obedient and more filial, while the younger generation also considered the emotional need of their parents, were less obedient, and less filial.

Table 4: *Intergenerational Differences in Perception of Filial Piety*

Categories	Examples	Total Frequency	Gender		Single Child?	
			M	F	Yes	No
Focus of filial piety	“I think our parents’ generation focuses more on material support. I will provide both material and emotional support to my parents.” “I think the older generation were more willing to show filial piety. Our generation have to do it for legal reasons.”	86	46	37	17	65
Degree of obedience	Our parents’ generation obeyed their parents unconditionally. We will have our own idea.	35	15	20	7	27
Outcomes of filial piety	“Our parents’ generation mainly tried to provide a better life for their parents. For us, making sure we do well is showing filial piety to our parents.”	32	18	13	7	24
Ways of filial piety	The understanding of filial piety is similar between generations. But the way to express it is different.	21	7	12	3	16
Degree of filial piety	“By observing how parents show filial piety to my grandparents, I believe my expressions of filial piety is very superficial. My parents’ generation are more considerate, and more detailed in providing care.”	11	7	4	4	7
Other		14	9	3	5	7

Discussions and Conclusion

China has been experiencing the fastest social and economic changes in its history. The current study examined one of the most important concepts in understanding Chinese parent-child relationship: filial piety. The findings, in general, suggest the Confucius' idea of filial piety is still pervasive in Chinese culture. While the original doctrines of filial piety persist, at the same it has taken on new meanings for young generations in China during this vast social change.

Reciprocating love to and pleasing parents were found to be the most common definitions of filial piety by Chinese young adults. This finding is not new, as Hwang (1999) argues the idea of filial piety is deeply rooted in the Confucian belief that an individual's life is a continuation of his or her parents. Using one participant's quote, filial piety is "returning favors, a way to give back what you have received." Traditional ideas of respect, obligation, and obedience were also present in our data. Participants seemed to have different interpretations of how obedient one should be to their parents. One participant said, "Filial piety is absolute obedience to parents before you turn 18, when you do not have the ability to tell right from wrong." But another participant believed that "Obedience is the core of filial piety. We listen when their opinions are right."

Communication was found to be the most common way to express filial piety. This suggests the importance of emotional support to elders from the young Chinese young generation. In addition, very few differences were found between single-child young adults and those with siblings. This finding is consistent with previous research by Deutsch (2004, 2006), and Liu (2008). It seems that the only-child generation has grown up and is ready to take up their filial obligations. Moreover, although not many gender differences were found, the few significant findings all suggest females were as likely as, if not more than, males to take care of their parents. This corresponds with Liu's (2006) suggestion that females are playing the role of "substitute sons" in fulfilling their filial obligations.

A few limitations deserve our mention. First, we only examined the perspectives of young adults. Future research should also look at parents' perspectives to get a more complete picture of filial piety in Chinese society during this fast social economic change. Second, because the concept of filial piety is indigenous to China (Ho, 1996), not much has been done on how filial piety is viewed in other cultures. Future research should explore whether and to what extent the idea of filial piety is present in other cultures, especially in Western cultures. Third, Liu (2008) recognizes both advantages and disadvantages of native Chinese researchers doing research on native Chinese young adults. Knowing the language and culture both enables the researchers to have open and friendly communication with participants and at the same time allows the possibility of overlooking some important aspects of the data. Lastly, while this study is informative in terms of what Chinese young adults think and express filial piety, future research should examine how filial piety plays a role in the quality of intergenerational relationships.

References

- Cai, D., Giles, H., & Noels, K. (1998). Elderly perceptions of communication with older and younger adults in China: Implications for mental health. *Journal of Applied Communication Research*, 26, 32-51.
- Chappell, N. L., & Kusch, K. (2007). The gendered nature of filial piety: A study among Chinese Canadians. *Journal of Cross Cultural Gerontology*, 22, 29-45.
- Chen, S. X., Bond, M. H., & Tang, D. (2007). Decomposing filial piety into filial attitudes and filial enactments. *Asian Journal of Social Psychology*, 10, 213-223.
- Cheng, C.-K., Kwan, A. Y.-H., & Ng, S. H. (2006). Impacts of filial piety on preference for kinship versus public care. *Journal of Community Psychology*, 34, 617-634.
- Deutsch, F. M. (2004). How parents influence the life plans of graduating Chinese university students. *Journal of Comparative Family Studies*, 35, 393-421.
- Deustch, F. M. (2006). Filial piety, patrilineality, and China's one-child policy. *Journal of Family Issues*, 27, 366-389.
- Goodwin, R., & Pillay, U. (2006). Relationships, culture, and social change. In A. L. Vangelisti & D. Perlman (Eds.), *The Cambridge handbook of personal relationships* (pp. 695-708). New York: Cambridge University Press.
- Goodwin, R., & Tang, C. S. (1996). Chinese personal relationships. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 294-308). New York: Oxford University Press.
- Gu, S., & Liang, L. (2000). China: Population aging and old age support. In V. L., Bengston, D. D. Kim, & K. S. Eun (Eds.), *Aging in east and west: Families, States, and elderly* (pp. 59-94). New York: Springer.
- Ho, D. Y. F. (1996). Filial piety and its psychological consequences. In M. H. Bond (Ed.), *The handbook of Chinese psychology* (pp. 155-165). New York: Oxford University Press.
- Hwang, K.-K. (1999). Filial piety and loyalty: Two types of social identification in Confucianism. *Asian Journal of Social Psychology*, 2, 163-183.
- Lang, O. (1946). *Chinese family and society*. New Haven, CT: Yale University Press.
- Levy, M. J. (1949). *The family revolution in modern China*. Cambridge, MA: Harvard University Press.
- Lin, Y. (1935). *My country and my people*. New York: Reynal & Hitchcock.
- Liu, F. (2008). Negotiating the filial self: Young-adult only-children and intergenerational relationships in China. *Young*, 16, 409-430.

- Tsai, H. - H., Chen, M. - H., & Tsai, Y. - F. (2008). Perceptions of filial piety among Taiwanese university students. *Journal of Advanced Nursing*, 63, 284-290.
- Yeh, K.-H., & Bedford, O. (2003). A test of dual filial piety model. *Asian Journal of Social Psychology*, 6, 215-228.
- Yue, X., & Ng, S. H. (1999). Filial obligations and expectations in China: Current views from young and old people in Beijing. *Asian Journal of Social Psychology*, 2, 215-226.
- Zhan, H. J., Feng, X., & Luo, B. (2008). Planning elderly parents in institutions in Urban China: A reinterpretation of filial piety. *Research on Aging*, 30, 543-571.
- Zhang, S., & Kline, S. (2009). Can I make my own decision? A cross-cultural study of perceived social network influence in mate selection. *Journal of Cross-Cultural Psychology*, 40, 3-23.

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Psychological Distress and Related Factors Among Parents Having Children With Cleft Lip and Palate Disorder: Evidence From Sri Lanka

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Abstract

Background: This study investigates the psychological distress (PPD) experienced by parents of children with cleft lip and palate disorders in Sri Lanka. The challenges associated with societal perceptions, medical interventions, and emotional impact on both parents and the affected child are explored. The research aims to assess PPD prevalence and associated factors, emphasizing the need for tailored support systems in the Sri Lankan context.

Methodology: A cross-sectional study was conducted at the Dental Hospital, Peradeniya, the largest dental hospital in Sri Lanka. PPD was measured using the General Health Questionnaire-30 (GHQ-30). Data on cleft site and associated disabilities were collected from clinical records. Chi-square and multivariate logistic regression were employed for data analysis.

Results: From 384 parents revealed a 34% prevalence of PPD. Chi-square analysis identified significant associations with the child's age, family income, family structure, prior knowledge on cleft lip and palate disorders (CLPD), cleft site, and associated disabilities. Multivariate logistic regression highlighted that the child's age, family structure, cleft of the hard and soft palate, feeding difficulties, and speech problems were significant predictors of PPD.

Conclusion: This study contributes valuable insights into the multifaceted nature of PPD among parents of children with cleft lip and palate disorders in Sri Lanka, emphasizing the necessity for targeted interventions to enhance parental well-being in the face of these challenges.

Keywords: Cleft Lip, Cleft Palate, Parental Psychological Distress

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Introduction

Cleft lip and/or palate disorder (CLPD) is a problem that arises from improper closure of facial features throughout the developing stage. Cleft lip, cleft palate, isolated cleft palate, and their combinations are all included in this syndrome. The disease is connected with a number of deficits, including difficulties with feeding, speaking, hearing, frequent ear infections, and oral health. This ailment is frequently associated with other congenital illnesses (Sandy et al., 2020).

The worldwide prevalence rates of cleft lip, cleft palate, and cleft lip and palate were 0.45, 0.3, and 0.33 per 1000 live births, respectively, according to a systematic study conducted by Salari et al. (Salari et al., 2021). The geographical regions exhibit notable variations in these rates. For example, the prevalence of orofacial clefts in the Asian region was 1.57 per 1000 live births (Panamonta et al., 2015).

There is a dearth of epidemiological information on cleft lip and palate in Sri Lanka. Incidences of cleft lip with or without cleft palate were found to be 0.83 per 1000 births in the Central Province, while isolated cleft palate was reported to be 0.19 per 1000 births (Amaratunga & Chandrasekera, 1989). According to De Alwis et al. (2008), there was a greater incidence of oral clefts in Anuradhapura, Sri Lanka, in 2008—2.2 per 1000 live births. Psychological distress is a common occurrence in society, and parents of children with abnormalities like CLPD frequently feel depressed and anxious (Despars et al., 2011), which has an impact on the dynamics of the entire family.

Due to difficulties nursing and a higher risk of respiratory infections, parents of newborns with CLPD frequently experience distress (Tsuchiya et al., 2019). Due to a lack of comprehensive documentation, parents of children affected by CLPD in Sri Lanka have not received enough care for their psychological health. In government hospitals, Sri Lanka uses a self-sustaining multidisciplinary team approach to treat CLPD, with follow-up care provided until aesthetic correction procedures are finished by the time the patient is 18 years old (Lamabadusuriya & Mars, 1988).

Although resources are available to help the psychological development of impacted children, parents who are dealing with many stressors at the same time have not received enough attention.

The study was carried out at the Dental Hospital, Peradeniya (DHP), a national referral center for oral health requirements and a tertiary care dental facility in Sri Lanka. The purpose of the study was to evaluate parental psychological distress (PPD) prevalence and risk variables among parents who attended the cleft lip and palate clinic.

Materials and Methods

The data from a cross-sectional study carried out from January to April 2017 at a hospital are presented in this report. The University of Colombo's Faculty of Medicine's Ethical Review Committee granted ethical approval. Parents who were willing to participate provided written informed consent, guaranteeing privacy and the ability to opt out.

Parents whose children have CLPD participated in the study by visiting the Oral and Maxillofacial Unit, DHP, in the Central Province of Sri Lanka for clinic visits. Each impacted

child only had one parent participate. Assuming a 50% prevalence of PPD, the sample size of 384 was determined using the formula for determining population proportions with absolute certainty.

Because CLPD is not very common, a non-probability consecutive sampling method was employed. Parents who were attending the cleft lip and palate clinics and whose children had CLPD were considered eligible. We did not include parents of children with other birth abnormalities. A pretested interviewer-administered questionnaire covering sociodemographic data, prior awareness of CLPD, and the General Health Questionnaire-30 (GHQ-30) to measure PPD were among the tools used to collect data. Children's clinical records were examined to identify the type of cleft and any related impairments.

The questionnaire's validity and reliability were confirmed by professional validation, parent pretesting at Lady Ridgeway Hospital for Children, and strict data management procedures.

The analysis of the data was done with SPSS 21. To investigate the connections between PPD and categorical factors, chi-square tests were employed. To find significant predictors of PPD, multivariate logistic regression analysis included variables with $p < 0.05$.

Sample Characteristics

384 children with CLPD were included in the current study group, and their parents answered the questionnaire given by the interviewer. The sample's children with CLPD were 58.8 months (SD+ 43 months) old on average. Mothers accompanied 62.8% of the children among the parents in the research. Seventy-eight percent of the participants were Sinhalese. The majority of parents lived with extended families (51.3%), had a family income of less than Rs. 25,000/month (53.9%), and were educated up to grade 11 (66.1%). Among the children that were affected, solitary cleft of the soft palate (8.3%) was the least common type of cleft, whereas cleft including lip and palate (32.3%) was the most prevalent. Speech issues were the most often cited handicap (41.4%).

Sample and Parental Psychological Distress Characteristics

34.4% of people reported having psychological distress. PPD was higher in fathers than in mothers, as Table 1 illustrates, but the difference is not statistically significant. The child's age ($p < 0.000$), family income ($p = 0.011$), family structure ($p < 0.000$), prior knowledge of CLPD ($p = 0.045$), the location of the cleft ($p < 0.000$), and the limitations related to that specific cleft ($p < 0.000$) were all substantially correlated with the PPD.

Table 1: Factors associated with parental psychological distress of the study population

Variable		Total (n = 384) N (%)	Parenting distress		χ^2 test	p
			Yes (n = 132; 34.4%) N (%)	No (n = 252; 65.6%) N (%)		
Gender of the parent	Female	241 (62.8%)	78 (32.4%)	163 (67.6%)	1.159	0.282
	Male	143 (37.2%)	54 (37.8%)	89 (62.2%)		
Ethnicity of the parent	Sinhalese	303 (78.9%)	101 (33.3%)	202 (66.7%)	1.184	0.553
	Muslim	62 (16.1%)	25 (40.3%)	37 (59.7%)		
	Other	19 (4.9%)	6 (31.6%)	13 (68.4%)		
Level of education of the parent	Up to grade 11	254 (66.1%)	88 (34.6%)	166 (65.4%)	2.666	0.264
	Passed grade 13	97 (25.3%)	29 (29.9%)	68 (70.1%)		
	Higher education	33 (8.6%)	15 (45.5%)	18 (54.5%)		
Age of the child	Less than 2 years	110 (28.6%)	91 (82.7%)	19 (17.3%)	159.770	0.000
	2 years or more	274 (71.4%)	41 (15.0%)	233 (85.0%)		
Living with spouse	Yes	340 (88.5%)	113 (33.2%)	227 (66.8%)	1.709	0.191
	No	44 (11.5%)	19 (43.2%)	25 (56.8%)		
Family income	Less than Rs. 25,000	207(53.9%)	83 (40.1%)	124 (59.9%)	6.517	0.011
	Rs. 25,000 or more	177(46.1%)	49 (27.7%)	128 (72.3%)		
Family structure	Nuclear	197(51.3%)	87(44.2%)	110(55.8%)	17.178	0.000
	Extended	187(48.7%)	45 (24.1%)	142 (75.9%)		
Previous knowledge on CLPD	No	151 (39.3%)	61 (40.4%)	90 (59.6%)	4.001	0.045
	Yes	233 (60.7%)	71 (30.5%)	162 (69.5%)		
Site of the cleft	Lip only	83 (21.6%)	7 (8.4%)	76 (91.6%)	37.192	0.000
	Hard and soft palate	73 (19.0%)	25 (34.2%)	48 (65.8%)		
	Lip and hard palate	124 (32.3%)	49 (39.5%)	75 (60.5%)		
	Complete bilateral	72 (18.8%)	33 (45.8%)	39 (54.2%)		
	Soft palate only	32 (8.3%)	18 (56.3%)	14 (43.8%)		
Associated disabilities	Other problems	85 (22.1%)	10 (11.8%)	75 (88.2%)	124.228	0.000
	Feeding difficulties	140 (36.5%)	98 (70.0%)	42 (30.0%)		
	Speech problems	159 (41.4%)	24 (15.1%)	135 (84.9%)		

Associations of Parental Psychological Distress

The multiple logistic regression analysis includes all PPD-related factors with p values less than 0.05. According to the results of the Omnibus Tests of Model Coefficients, the model is a significant predictor of PPD, with a Chi square value of 222.074 and a p value of less than 0.000. The predictor factors were able to predict 60.7% of the variance in the PPD, as indicated by the Nagelkerke R Square of 0.607.

Table 2: Multivariate analyses: Selected factors associated with parental psychological distress

Variable	Category	Adjusted Odds Ratio (CI)	P value
Age of the child	2 years or more	1.0	< 0.000*
	Less than 2 years	16.327 (7.158-37.238)	
Family income	Less than Rs. 25,000	1.0	0.394
	Rs. 25,000 or more	0.761 (.407- 1.424)	
Family structure	Nuclear	1.0	0.001
	Extended	0.344 (0.182- 0.649)	
Previous knowledge of CLPD	No	1.0	.077
	Yes	0.566 (0.302- 1.063)	
Site of the cleft	Lip only	1.0	0.002
	Hard and soft palate	9.984 (2.313-43.107)	
	Lip and hard palate	2.572 (0.714-9.264)	
	Complete bilateral	1.577 (0.477-5.215)	
	Soft palate only	0.623 (0.180-2.154)	
Associated disabilities	Other problems	1.0	0.038
	Feeding difficulties	2.758 (1.056-7.206)	
	Speech problems	0.435 (0.196- 0.967)	

*p < 0.05

The adjusted relationships between other health-related variables and sociodemographic characteristics and PPD are displayed in Table 2. After adjusting for confounding variables, parents of CLPD children under the age of two had significantly greater PPD (adjusted odds ratio (AOR), 16.327; 95% confidence interval (7.158-37.238). Compared to nuclear families, parents who live with their extended family have a considerably lower likelihood of having PPD (AOR, 0.344; 95% CI, 0.182- 0.649). Only the hard and soft palate clefts (AOR, 9.984; 95% CI, 2.313-43.107) among the children's cleft types were found to have a significant effect on PPD. Among the linked disabilities, cleft-related speech issues (AOR 0.435; 95% CI, 0.196-0.967) and eating difficulties (AOR 2.758; 95% CI, 1.056-7.206) were significant predictors.

Conclusions

The psychological distress experienced by parents of children with CLPD has not been given nearly as much attention in Sri Lankan medical literature. According to the current study, which involved a hospital-based sample of parents, 34% of the study population had PPD. The study's unrefined analysis revealed a strong correlation between PPD and the child's age, family income, family structure, prior knowledge of CLPD, the location of the cleft, and problems linked to specific clefts. Nevertheless, age of the kid, family structure, cleft in the

hard and soft palate, feeding issues related to the cleft, and speech issues related to the cleft were found to be the most significant variables among all of these.

In the current study there were strong predictors of PPD. In terms of controlling the PPD, these findings might provide useful information for multidisciplinary cleft care professionals.

Parents' emotional and social challenges to cope with their child's condition have been highlighted in previous study in the field of CLPD (Nelson et al. 2012). Mothers may experience significant anguish due to feelings of social marginalization and stigmatizing reactions from others, which can cause them to worry for their child's future. The medical literature has emphasized the need of managing parental distress in order to lower the likelihood that children with cleft lip and palate may experience psychological issues. The timing of CLPD treatment may have an impact on improving mother-child interactions (Murray et al., 2008).

Overall, the present study demonstrates the importance of the concept of family. Fathers were more distressed than mothers regarding the condition of their children. Those living with the spouse and those living with extended family had lower scores of PPD. Although fathers play a key role in supporting their families through the treatment process of the affected children, they are underrepresented in the research literature (Stock & Rumsey 2015). Further, fathers may present the strong moral support of their family following the initial CLPD diagnosis and not share their own concerns until a later stage. Efforts should therefore be made to involve fathers in clinical care wherever possible. The findings of the study done by Stock et al. (2016) suggested that encompassing all members of the family is essential for optimal familial adjustment to improve the psychosocial impact of CL/P on affected individuals (Stock et al., 2016).

Rarely is the effect on the extended family examined. Guest et al. (2019) examined the role grandparents play in caring for their grandkids with CLPD and emphasized the significance of include them in offering moral support to the child's parents.

According to this study, a patient's age can accurately predict how distressed their parents will feel psychologically. Aslan et al.'s (2018) and Yuan et al.'s (2022) research have also validated the impact of the psychological states of caregivers of patients with CLPD. Once the first shock and distress wear off, parents of a child born with a cleft usually want to know what the cause is, what the best therapies are (and where to get them), and what the kid's future holds. When the child in this study was more than two years old, the parents' degree of distress decreased dramatically. The primary reason for this is, as the patient grows up and the treatment progresses, the parents can take care of their children more easily. Nonetheless, the child's psychological and developmental issues are a concern that we must overlook. A considerable number of parents whose children have CLPD focus excessively on their look and function, neglecting their interpersonal communication skills and personality development (Yuan et al., 2022). While the cost of medical treatment for parents of patients with CLPD decreases as the patients reach adulthood, parents still require assistance from appropriate professional services to support the positive development of the patients' psyche and society.

In people with CLPD, the functions of the nasal and oral cavities are compromised. The ability to generate negative pressure required for sucking is diminished by oronasal

communication. The clinician's first worry when it comes to infants with CLPD problems is feeding (Bessell et al., 2011).

Nasal regurgitation of food and excessive air intake, which involves frequent burping and choking, further complicate the feeding process. The lengthier feeding times wear down the mother and the infant (Muthu 2000).

Ensuring proper nutrition is the top goal for all infants during their first few months of life. Parents' psychological discomfort is exacerbated by feeding issues that newborns with CLPD frequently experience. The current study and numerous other studies that can be found in the medical literature both unequivocally show this relationship (Devi et al., 2012).

The current study found that cleft-related speech issues were a major predictor of PPD. Some children have "cleft palate speech," which is defined by unusual consonant sounds, abnormal nasal resonance, and abnormal nasal airflow, even with early cleft surgery. Speech therapy can be used to correct these aspects (Nagarajan et al., 2009). To guarantee that prompt assessments and suitable care are given, the speech therapist must collaborate closely with the surgeon and other team members as a member of the cleft care team. Reducing the parents' distress is much easier when this communication issue in people with CLPD is improved.

The best results for cleft care come from multidisciplinary, comprehensive services. As a result, each team member must comprehend the basic concepts of care in the domain of expertise of the other team members.

This study emphasizes how crucial it is to screen parents of children with CLPD for characteristics that contribute to PPD in pediatric care settings and to start early intervention referrals when these risk factors exist. Regarding PPD management, it offers a wealth of knowledge to multidisciplinary cleft care professionals.

References

- Abeysena C, Peiris U, Jayawardana P, Rodrigo A. Validation of the Sinhala version of 30-item General Health Questionnaire. *Journal of the Postgraduate Institute of Medicine*.2014; 1.
- Amaratunga AN, Chandrasekera A. Incidence of cleft lip and palate in Sri Lanka. *J Oral Maxillofac Surg*. 1989;47(6):559-561.
- Aslan BI, Gülşen A, Tirank ŞB, et al. Family Functions and Life Quality of Parents of Children With Cleft Lip and Palate. *J Craniofac Surg*. 2018;29(6):1614-1618.
- Bessell A, Hooper L, Shaw WC, Reilly S, Reid J, Glenny AM. Feeding interventions for growth and development in infants with cleft lip, cleft palate or cleft lip and palate. *Cochrane Database Syst Rev*. 2011;2011(2):CD003315.
- De Alwis A, De Silva K, Bandara W, Gamage T. Prevalence of talipes equinovarus, congenital dislocation of the hip, cleft lip/cleft palate, Down syndrome and neural tube defects among live newborns in Anuradhapura, Sri Lanka. *Sri Lanka Journal of Child Health* 2008; 36(4): 130.
- Devi ES, Sai Sankar AJ, Manoj Kumar MG, Sujatha B. Maiden morsel - feeding in cleft lip and palate infants. *J Int Soc Prev Community Dent*. 2012;2(2):31-37.
- Despars J, Peter C, Borghini A, et al. Impact of a Cleft Lip and/or Palate on Maternal Stress and Attachment Representations. *The Cleft Palate-Craniofacial Journal*. 2011;48(4):419-424.
- Goswami M, Jangra B, Bhushan U. Management of feeding Problem in a Patient with Cleft Lip/Palate. *Int J Clin Pediatr Dent*. 2016 Apr-Jun;9(2):143-5.
- Goyal M, Chopra R, Bansal K, Marwaha M. Role of obturators and other feeding interventions in patients with cleft lip and palate: a review. *Eur Arch Paediatr Dent*. 2014;15(1):1-9.
- Guest E, Costa B, McCarthy G, Cunniffe C, Stock NM. The Experiences and Support Needs of Grandparents of Children Born With Cleft Lip and/or Palate. *Cleft Palate Craniofac J*. 2019;56(9):1181-1186.
- Lambadusuriya SP, Mars M, Ward CM. Sri Lankan cleft lip and palate project: a preliminary report. *Journal of the Royal Society of Medicine*. 1988; 81(12):705–709.
- Murray L, Hentges F, Hill J, et al. The effect of cleft lip and palate, and the timing of lip repair on mother-infant interactions and infant development. *J Child Psychol Psychiatry*. 2008;49(2):115-123.
- Muthu MS. Management of an infant with cleft lip and palate with phocomelia in dental practice. *J Indian Soc Pedod Prev Dent*. 2000;18(4):141-143.

- Nagarajan R, Savitha VH, Subramaniyan B. Communication disorders in individuals with cleft lip and palate: An overview. *Indian J Plast Surg.* 2009 Oct;42 Suppl(Suppl):S137-43.
- Nelson PA, Glenny AM, Kirk SA, Caress AL. Parents' experiences of caring for a child with a cleft lip and/or palate: a review of the literature. *Child Care Health Dev.* 2012;38(1):6-20.
- Panamonta V, Pradubwong S, Panamonta M, Chowchuen B. Global birth prevalence of orofacial clefts: a systematic review. *J Med Assoc Thai.* 2015; 98(Suppl 7): S11-21.
- Salari N, Darvishi N, Heydari M, Bokae S, Darvishi F, Mohammadi M. Global prevalence of cleft palate, cleft lip and cleft palate and lip: a comprehensive systematic review and meta-analysis. *J Stomatol Oral Maxillofac Surg.* 2021:1–11.
- Sandy J, Davies A, Humphries K, Ireland T, Wren Y. Cleft lip and palate: Care configuration, national registration, and research strategies. *J World Fed Orthod* 2020; 9(3S):S40-S44.
- Stock NM, Rumsey N. Parenting a child with a cleft: the father's perspective. *Cleft Palate Craniofac J.* 2015;52(1):31-43.
- Stock NM, Humphries K, Pourcain BS, et al. Opportunities and Challenges in Establishing a Cohort Study: An Example From Cleft Lip/Palate Research in the United Kingdom. *Cleft Palate Craniofac J.* 2016;53(3):317-325.
- Tsuchiya S, Tsuchiya M, Momma H, et al. Association of cleft lip and palate on mother-to-infant bonding: a cross-sectional study in the Japan Environment and Children's Study (JECS). *BMC Pediatr.* 2019;19(1):505.
- Yuan L, Gao Y, Pan B, Wang J, Wang Y, Gong C, Wang W, Li X. Resilience and Related Factors: A Comparison of Fathers and Mothers of Patients With Cleft Lip and/or Palate in China. *Front Psychiatry.* 2022 Jan 13;12:791555.

*Sense of Belonging, Identity and Nationalism Dayak Bidayuh on
the Border Indonesia-Malaysia*

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Abstract

This study examines the notions of belonging, identity, and nationalism within the Dayak Bidayuh community residing in the Jagoi Babang area, located along the border between Indonesia and Malaysia. The concept of belonging, a fundamental human characteristic closely linked to one's identity, culture, and heritage, plays a vital role in comprehending the dynamics of a community. Despite being part of Indonesia's ethnic groups, the Dayak Bidayuh exhibit a solid attachment to their ancestral lands, demonstrating their feeling of belonging through intense nationalist sentiments as Indonesian citizens and a deeply rooted affection for their homeland. This research aims to uncover the diverse, intricate factors that impact their sense of belonging. The Dayak Bidayuh identity and sense of belonging are profoundly shaped by their beliefs, customs, culture, and the geographical location in which they reside. In addition, we examine the complexities of the Dayak Bidayuh community's sense of belonging near the Indonesia-Malaysia border compared to other regions in Indonesia. This comparative analysis provides valuable insights into the complexities of borderland identities and their implications for the preservation of culture and the viability of development programs. Comprehending these processes is essential for fostering harmony between different cultures, protecting native traditions, and promoting overall progress in border regions.

Keywords: Sense of Belonging, Identity, Nationalism Dayak Bidayuh

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Introduction

The convergence of belonging, identity, and nationalism creates an intricate fabric in areas where (Woo, Easthope, & Kyung-Sup, 2020) people live, having shared ethnic connections but varying in terms of national citizenship. This research examines the complex dynamics within the Dayak Bidayuh community in Jagoi Babang, which is located on the border between Indonesia and Malaysia. The enduring impact of colonialism is evident in this area, namely via the decolonization efforts undertaken by the Dutch in Indonesia and the British in Malaysia (Budiawan, 2017; Darmanto, Masduki, & Wiryawan, 2022). These processes have led to the fragmentation of ethnic communities beyond national boundaries. The historical backdrop is essential for comprehending the present difficulties encountered by the Dayak Bidayuh and their deep-rooted attachment to their ancestral territory. Statement of the problem The main focus of the inquiry is the transnational presence of the Dayak Bidayuh population, which is divided between Indonesia and Malaysia as a result of colonial-era border delineations. The divide has presented distinctive difficulties for the group, who, although having a shared ethnic identity, must manage the intricacies of belonging to separate nation-states. The feeling of belonging, identity, and nationalism in Jagoi Babang is therefore shaped by a simultaneous loyalty to both their ethnic history and their national citizenship (Efriani, Hasanah, & Bayuardi, 2020).

Overview of the Dayak Bidayuh Community in Jagoi Babang the Dayak Bidayuh, an indigenous population native to Borneo, have a traditional way of life centred upon agriculture. They reside in tightly-knit communities and have a vibrant cultural heritage with many customs and rituals. The Jagoi Babang group has a long-standing presence in this border region, resulting in a profound attachment to their land. Their geographical affiliation plays a crucial role in shaping their identity, cultivating a profound sense of belonging. The cultural activities of the Dayak Bidayuh, such as the *Gawai* Dayak celebration and traditional agricultural methods, are not just cultural artefacts but integral aspects of their everyday life that strengthen their shared identity. The colonial history of Borneo, namely the interventions carried out by the Dutch and the British, has had enduring consequences for the Dayak Bidayuh people (Bijl, 2012). The act of arbitrarily delineating colonial borders caused the fragmentation of the Dayak people, resulting in its subjugation to several administrative authorities. Following the achievement of independence, the borders between Indonesia and Malaysia were established as official national boundaries (Sulistyarini, Dewantara, Purnama, & Mirzachaerulsyah, 2021b). Consequently, the Dayak Bidayuh community residing in Jagoi Babang became Indonesian citizens, while their relatives living on the other side of the border became Malaysians. This rift has resulted in a dual identity, where ethnic solidarity is juxtaposed with national disunity.

Feeling of Inclusion and Personal Identity the Dayak Bidayuh's feeling of belonging is closely intertwined with their land, cultural customs, and historical encounters. Regardless of the geographical boundary, their sense of self remains deeply connected to their ancestral territory, which they view as an essential component of their cultural legacy. This devotion is evident in several manifestations, including the preservation of their language, rituals, and communal activities (Olendo, Dewantara, & Efriani, 2022). Their traditional community longhouses serve not only as living places, but also as emblems of their cultural identity and social system. The Dayak Bidayuh's dual national loyalty enhances their sense of belonging by adding an additional dimension. Although they strongly identify as Indonesian, their cultural and ethnic connections to their Dayak background remain strong. These individuals must constantly navigate their position within Indonesia's national structure while preserving

their unique cultural heritage. In order to provide context for the debate, it is crucial to emphasise certain significant statistics and facts regarding the Dayak Bidayuh community in Jagoi Babang: The population distribution of the Dayak Bidayuh in Jagoi Babang is around 15,000, as reported by the local census statistics. A notable proportion of their group also resides in Malaysian Borneo, just across the border. Transnationalism examines how migrant or border communities establish and sustain relationships beyond national borders, creating a shared identity that goes beyond the concept of the nation-state. Identity theory explores how people and communities understand and communicate their identity via cultural, social, and political perspectives. The notion of "borderland identities" is especially pertinent in this context since it encompasses the distinct dynamics of identity in areas where national borders cross with ethnic and cultural continuities. This theoretical framework facilitates comprehension of how the Dayak Bidayuh handles their dual identity and feeling of affiliation. To further explore these matters, this project aims to tackle the following research inquiries:

- How can the Dayak Bidayuh community in Jagoi Babang preserve their feeling of affiliation and distinctiveness given their specific geographic and political position along the border between Indonesia and Malaysia?
- What are the consequences of their transnational life for the preservation of their culture and the integration of their nation?

This research seeks to explore the intricate ways in which the Dayak Bidayuh community maintains a harmonious equilibrium between their ethnic identity and national citizenship. It intends to investigate how this delicate balance impacts their cultural traditions and the unity within their group. The Dayak Bidayuh community in Jagoi Babang provides a distinctive perspective to analyse the intricacies of affiliation, individuality, and patriotism in border areas. Their experiences highlight the long-lasting effects of colonial histories and the continuing difficulties of living beyond national boundaries. Gaining an understanding of individuals' feeling of belonging and identification not only offers valuable insights into their community, but also helps to wider conversations on cultural preservation, national integration, and the complexities of identities in border regions. This study seeks to elucidate the complex interaction between ethnicity, nationality, and cultural legacy in influencing the experiences of the Dayak Bidayuh community in Jagoi Babang.

Method

The study employs an ethnographic methodology that centers on firsthand accounts and viewpoints to comprehend the everyday existence and intricacies of identity, ownership, and nationalism within the Dayak Bidayuh community in Jagoi Babang. This methodology enables researchers to get a profound comprehension of culture, social customs, and community relationships from an interior vantage point (Blasco & Wardle, 2007). This ethnographic research commences with gathering preliminary data on the historical background, cultural practices, and socio-political intricacies of the Dayak Bidayuh group. This stage encompasses the gathering and categorization of written works, as well as the acquisition of preliminary data and individuals who possess specialized knowledge that can offer a comprehensive understanding of the community. In addition, the researchers will reside in Jagoi Babang for a minimum duration of six months to gain firsthand experience of the community's daily existence. Engaging in daily activities, traditional rituals, and community gatherings serves the purpose of fostering trust and establishing strong bonds with members of the community (Cresswel, 2014).

Data gathering is conducted using participatory observations, in-depth interviews, focused group discussions (FGDs), and visual documentation. The observations are categorized into structured and unstructured formats to accurately document the intricacies of social interactions and cultural customs. Conducting in-depth interviews involves employing a versatile interview guide to facilitate thorough research of the issue, based on the responses provided by the informant. The interview mostly addressed topics such as ethnic identity, ownership, transnational experiences, and perspectives on nationalism. Community-based focused group conversations are conducted with many demographic groups, including youth, women, and native elders. These discussions employ facilitation approaches that promote active engagement and gather a wide range of opinions. Visual documentation entails capturing photographs and films of significant events such as Gawai Dayak festivities, community gatherings, and daily routines. This visual material serves as a contextual reference to enhance data interpretation (Fetterman, 2010).

Ensuring ethical practices in ethnographic research is crucial (Miles, M.B, Huberman & Saldana, 2014). Before conducting interviews or observations, researchers are required to seek written agreement from all participants. This consent should include a comprehensive explanation of the research objectives, the methodologies to be employed, and the intended use of the collected data. Maintaining participant anonymity through the use of pseudonyms and ensuring the secure storage of data is of utmost importance. Researchers are obligated to uphold the privacy of individuals and refrain from revealing confidential information without explicit consent. Furthermore, researchers make efforts to guarantee that the outcomes of the research are advantageous to the community by actively engaging them in the research process and incorporating them in the decision-making process about the release of the findings. study reflectivity is a crucial factor that requires researchers to be conscious of their position and influence within the community, and how these factors can impact the data they gather. Additionally, researchers must engage in critical reflection on the study process to recognize and address any growing prejudice or assumptions. Through the utilization of an ethnographic technique, this research aims to delve further into the experiences and viewpoints of the Dayak Bidayuh community. By doing so, it aims to gain a comprehensive knowledge of their identity and their sense of ownership within the specific context of the Indonesian-Malaysia border. This technique is anticipated to offer significant insights into how these communities manage their dual identities and safeguard their cultural legacy in various national contexts.

Result and Discussion

Maintaining Identity and Sense of Belonging

That morning of July 2023, thin fog covered the Jagoi Babang hills as the sun began to shine on the east horizon. We leave the simple wooden house where we have lived for the last few months. Here, in the heart of Kalimantan, we live our daily lives with the people of Dayak Bidayuh, who have inhabited this area for centuries. These communities live on the border between Indonesia and Malaysia, facing unique geographical and political challenges while maintaining their strong sense of ownership and identity. Through observation and in-person experience, we try to understand how they maintain attachment to their ancestral land and culture. Life in Jagoi Babang begins at dawn. We wake up every morning with the chicken whistling and see the activity of the citizens starting to get busy preparing for that day. The fragrance of fresh coffee and the burning wood smoke encircled the morning air. Families gather for breakfast and share stories and plans for the day in the middle of a meal. Here, the

daily routine is about running activities and strengthening a sense of fellowship and attachment to their culture.

Every morning, we joined the families who hosted us in carrying out their daily rituals. They always start the day with prayers to the spirits of their ancestors, a tradition rooted in the Dayak Bidayuh culture. This prayer is a form of honor and a way to connect them with the land and history they visit. We are beginning to realize that this ritual is essential to their identity, reflecting a strong sense of possession of ancestral lands. For the people of Dayak Bidayuh, land is a source of livelihood and a symbol of identity and cultural heritage. We often go to the fields with the farmers, watching them work with respect for nature. They use traditional farming methods inherited from generation to generation, ensuring the soil remains fertile and productive. The border that separates Indonesia and Malaysia maybe just a line on the map, but for the Dayak Bidayuh community, it is a reality to face every day. Although administratively separate, they see this land as one unity inseparable from their identity. The challenges faced, such as the differences in legal systems, education, and economic policies between the two countries, still needed to diminish their attachment to ancestral lands. Instead, it strengthens their determination to preserve and preserve their cultural heritage.

One of the most vivid expressions of Dayak Bidayuh's identity is the Gawai Dayak festival, which is celebrated after the harvest season. The community gathered to honor the spirits, thank them for the harvest, and pray for prosperity in the coming year. This festival is a celebration full of color, sound, and taste. Traditional dances, music, and rituals are performed with a high spirit. During the Gawai Dayak festival, we witnessed how cultural practices strengthen community bonds. The elders are essential in transmitting knowledge and tradition to the younger generation. The children learn the dance, the song, and the meaning of various rituals. This process ensures that cultural knowledge continues to live and thrive. The festival is also an occasion for the people of Dayak Bidayuh to affirm their uniqueness amid increasing external influence. We spent much time with the villagers, listening to their stories and learning about their oral traditions. Often conveyed in the Bidauh language, these stories are rich in lessons about life, nature, and the cosmos. These stories are entertainment and a way to impart cultural values and knowledge to the younger generation. The effort to preserve these languages is a conscious act of preserving their cultural identity amidst a rapidly changing world.

Living in the border territory means the people of Bidayuh in Jagoi Babang must constantly negotiate their identity within the framework of two states. This transnational existence brings opportunities and challenges. On the one hand, proximity to Malaysia provides economic opportunities through cross-border trade and jobs. On the other hand, they have to navigate different legal and administrative systems. The Dayak Bidayuh community has developed a strategy to face this challenge. They maintain a strong bond of friendship on both sides of the border, which provides a network of support when needed. These bonds are family and cultural because they share rituals, festivals, and traditional knowledge with their relatives across borders. These transnational networks help them maintain their cultural identity and sense of ownership despite being separated by political boundaries.

Education plays a vital role in shaping the future of Dayak Bidayuh society. In Jagoi Babang, schools teach Indonesian national curricula, but there are increasing efforts to integrate local knowledge and cultural practices into the education system. Community leaders and educators work together to develop curricula that reflect the cultural heritage of Dayak

Bidayuh. We visited local schools during our stay and observed how teachers integrated traditional stories, dances, and agricultural practices into their lessons. This approach makes education more relevant to student life and strengthens their cultural identity. Seeing children proudly telling traditional stories and dancing customary dances is delightful. Integrating local cultures into education is a powerful tool for their ownership and cultural uniqueness. Despite the challenges of transnational existence, the Dayak Bidayuh community in Jagoi Babang is committed to preserving its cultural heritage. Their sense of possession is closely linked to their land, language, and traditions. They navigate the complexity of living on the border with resilience and creativity.

Community initiatives play an essential role in this process. Local leaders fight for policies that recognize and support their unique cultural identity. They also work to create economic opportunities that enable communities to thrive while remaining faithful to their traditions. For example, initiatives to promote eco-environment and traditional crop cultivation help create a sustainable future for communities. When we finished our research at Jagoi Babang, we were impressed by the resilience and strength of the Dayak Bidayuh community. Their ability to maintain their ownership and cultural uniqueness amid geographical and political challenges is evidence of their deep attachment to their land and culture. Living with them has given us a profound appreciation of the importance of cultural practices, languages, and communities in shaping identities.

The Dayak Bidayuh community in Jagoi Babang is a living example of how communities can preserve their cultural heritage and thrive in a changing world. Their story is one of resilience, adaptation, and a sense of possession that transcends political boundaries. They ensure this rich cultural heritage is passed on to future generations through everyday practices, festivals, and education. This experience enriches our understanding of Dayak Bidayuh and provides valuable insights into the dynamics of identity and sense of ownership in border communities.

After going through the penalty journey in Jagoi Babang, we discovered that the Dayak Bidayuh community not only lives daily but also celebrates and preserves its cultural heritage enthusiastically. Daily rituals like prayer to the spirits of ancestors and farming activities inherited from time to time become impressive sights. Every morning, they start the day with respect for their ancestral land. This practice is about physical existence in the place and spiritual and emotional communion with the natural environment they love so deeply. Participation in rituals and festivals became the core of their lives. We are fascinated by the spirit and excitement accompanying the *Gawai* Dayak festival, where the entire community gathers to celebrate the harvest and honor the spirits of their ancestors. Traditional dances carried out enthusiastically by young people are tangible proof of how cultural practices in the Jagoi Babang are a legacy and a living and thriving part of their daily lives.

However, behind the delight of the festivals and daily activities, we also witnessed how strong their attachment to their ancestral land was. An attachment is an emotional connection to a place that can form an individual's and a group's identity (Du, Li, & Hao, 2018). For the people of Dayak Bidayuh, land is a source of livelihood and a reflection of their rich cultural identity. The traditional farming practices that they wisely preserve not only meet the needs of life but also serve to instill spiritual bonds with the land and its environment (Du et al., 2018).

We also found that the Bidayuh Dayak community in Jagoi Babang lives in a unique transnational context. They live on the border between Indonesia and Malaysia geographically and cross administrative and cultural boundaries daily (Fatmawati & Dewantara, 2022). Transnationalism explains that migration and cross-border interaction can affect one's cultural identity and practices (Martono, Dewantara, Efriani, & Prasetyo, 2022). For the people of Dayak Bidayuh, the affinity network that crosses borders is an integral part of their lives. They maintain close ties with relatives in Malaysia, sharing rituals, stories, and shared cultural values. It strengthens their transnational identity and provides essential social support in dealing with the economic and administrative challenges unique to border communities. Education also plays an essential role in preserving and developing the cultural identity of the Dayak Bidayuh community. In multicultural education theory, it is crucial to integrate local knowledge and cultural practice into the formal curriculum. In Jagoi Babang, we saw how local schools collaborated with community leaders to integrate traditional stories, customary dances, and agricultural practices into daily learning. This step not only strengthens the cultural identity of the younger generation but also ensures that this rich cultural heritage remains alive and relevant in the era of globalization. Thus, Dayak Bidayuh in Jagoi Babang managed to maintain their sense of ownership and identity amid the challenges of geography, politics, and globalization. Through well-integrated cultural practices, deep emotional attachment to ancestral lands, and intelligent adaptation to transnational realities, they demonstrate the resilience and richness of cultural identities to be respected and preserved for future generations.

Consequences of Dayak Bidayuh Transnationalism on Culture and National Integration

Among the traditional wooden houses, we could hear their mother tongue mixed with the fragrance of fresh coffee burned in the kitchen. That is where the daily routine begins, with the preparation to trade in the market just a short distance from here. However, the market that is the momentum of our economy is in Indonesia rather than in Serikin, Malaysia. The Serikin Market, with all its crowds and cultural diversity, has become an essential part of our daily lives. Every Friday, we prepare to cross the border. Despite strict rules limiting the number of purchases and use of cross-border routes, we feel lucky to be involved in transboundary trade that brings economic blessings to our community. Indonesian commodities, such as traditional fabrics, handicrafts, and specialty food, are always on the market, not only because of their competitive prices but also because of the cultural values they symbolize.

Our transnational lives are about making a living and keeping our cultural heritage alive and sustainable. Although separated by administrative boundaries, we still celebrate Gawai Dayak and other holidays with the same spirit, though under different Malaysian skies. It is the essence of how national integration for us is limited to the country and the appreciation and respect for our deep cultural roots. However, there is no life without challenges. We know the complexity of the laws and regulations governing our presence on this border. Lack of legal protection for informal traders like us is often a problem, but the spirit to survive and thrive continues to burn our spirit. We also realize that our existence here is about taking and giving. This cross-border relationship benefits us economically and encourages mutual understanding and cooperation between two countries with rich histories and cultures.

In all of this complexity, the relevance of the research question is emitted clearly. How does our transnational life affect the preservation of culture and the integration of nations? The answer can be seen in every cloth we sell at the Serikin Market, in every voice of Gawai

singing on the river, and in every cheerful laugh among cross-border merchants. They are living proof that nations can be integrated through the appreciation of cultural diversity and openness to diversity. As we look at their daily life in Jagoi, there is a unique jargon called "garuda in my chest," symbolizing our loyalty to Indonesia, while "Kuching in my stomach" shows how closely connected we are with Malaysia. Both are part of our inseparable identity, reminding us that in the middle of physical boundaries, a cultural bridge connects and enriches our lives as a Dayak Bidayuh community.

The transnational life of the people of Dayak Bidayuh in Jagoi Babang significantly impacts the preservation of their culture and the nation's integration. In this context, the relevance of the research question is widespread, highlighting how their life experience on the border between Indonesia and Malaysia affects economic and social life and forms a rich and complex cultural narrative. The people of Dayak Bidayuh in Jagoi Babang, Bengkayang district, West Kalimantan, live where their daily activities are closely linked to the country's borders. The Serikin market in Malaysia, a significant hub of cross-border trade and interaction, is becoming essential in their economic life. Despite being bound by transboundary rules restricting their activities, such as maximum purchases of 600 ringgit per month and limited use of cross-border postal services, these communities can still maintain cultural survival (Eilenberg & Wadley, 2009).

One of the striking aspects is how transactions in the Serikin Market are economically profitable and enrich cultural exchanges between the two countries. Indonesian merchandise, such as customary clothes, handicrafts, and exceptional food, is a significant attraction for Malaysian shopping visitors. This has a positive economic impact on local traders and promotes the preservation of the cultural heritage of Dayak Bidayuh through acceptance and appreciation from the Malaysian community. Transnational life also affects the national integration of the Dayak Bidayuh community with two different states. Despite living in Indonesia, many have families or siblings in Malaysia, making cross-border intercourse an integral part of their lives. It creates a unique social dynamic in which political boundaries, cultural heritage, and cross-border social networks define national identity. However, the challenge must be addressed. Transnational life also raises tensions in terms of legality and social integration. Indonesian traders in the Serikin Market must operate without a formal work permit, raising questions about economic justice and legal protection for informal migrant workers in the region. Nevertheless, their existence also indicates an effort to preserve traditions and cultures, even in a dynamic and tightly bounded context (Sulistyarini, Dewantara, Purnama, & Mirzachaerulsyah, 2021a).

The relevance of the research questions in this narrative lies in a deep understanding of how transnational life affects the identity and cultural preservation of the Dayak Bidayuh community. Despite the pressure of economic and legal factors, their pride in Indonesian culture and national identity remains strong. It shows that national integration is limited to administrative territories and the ability to preserve cultural values and traditions in a diverse and transnational environment. The transnational life of the Dayak Bidayuh community in Jagoi Babang offers a rich view of the border's cultural complexity and national identity. They are struggling to survive economically and preserve their cultural heritage in an era of constantly changing globalization. (Dewantara, Efriani, & Sulistyarini, 2020).

Conclusion

The transnational life of the Dayak Bidayuh community in Jagoi Babang, West Kalimantan, highlights the complex dynamics between cultural preservation and national integration. Living on the border between Indonesia and Malaysia, they are engaged in intense economic activity in the Serikin Market, Malaysia. Despite the constraints and legality challenges, these communities managed to preserve their rich cultural identity. This cross-border interaction enables a continuous cultural exchange, enriching the traditions and rituals of the Dayak Bidayuh. Festivals like Gawai Dayak become important moments to strengthen their cultural identity despite being in different neighborhoods. Their presence on the market also has a significant economic impact on both Indonesian traders and Malaysian locals. On the other hand, this transnational life also requires careful navigation of both countries' legal and administrative regulations. These challenges often make it difficult to access better services and opportunities. However, cross-border solidarity and solid social networks helped them overcome these obstacles.

The national integration of Dayak Bidayuh communities is not only limited to administrative boundaries but also covers their cultural values and heritage. Their loyalty to Indonesia remains strong, even though interactions with Malaysia heavily influence their daily lives. They show that national identity can be built by appreciating cultural diversity and cross-border cooperation. Overall, the transnational life of the Dayak Bidayuh community in Jagoi Babang offers essential insights into how border communities can play a vital role in preserving culture and national integration. By preserving and adapting their traditions in a transnational context, they preserve valuable cultural heritage and promote harmony and understanding between the two nations.

References

- Bijl, P. (2012). Colonial memory and forgetting in the Netherlands and Indonesia. *Journal of Genocide Research*, 14(3–4), 441–461.
<https://doi.org/10.1080/14623528.2012.719375>
- Blasco, P. G. y., & Wardle, H. (2007). How to Read Ethnography. In *How to Read Ethnography*. <https://doi.org/10.4324/9780203390962>
- Budiawan. (2017). How do Indonesians remember Konfrontasi? Indonesia–Malaysia relations and the popular memory of “Confrontation” after the fall of Suharto. *Inter-Asia Cultural Studies*, 18(3), 364–375.
<https://doi.org/10.1080/14649373.2017.1345349>
- Cresswel, J. W. (2014). Research design:Qualitative, quantitative and moxed method. In *Sage Publications Inc.*
- Darmanto, Masduki, & Wiryawan, H. (2022). Radio Broadcasting and Indonesian Nationalism: During the Last Decade of Dutch Colonialism. *Journal of Radio & Audio Media*, 29(1), 104–119. <https://doi.org/10.1080/19376529.2022.2035730>
- Dewantara, J. A., Efriani, E., & Sulistyarini, S. (2020). Caring National Identity Through Teacher Contributions in the Border: Pancasila Actionistic Basic Implementation. *Jurnal Basicedu*, 4(3), 649–661. <https://doi.org/10.31004/basicedu.v4i3.407>
- Du, H., Li, S. M., & Hao, P. (2018). ‘Anyway, you are an outsider’: Temporary migrants in urban China. *Urban Studies*, 55(14), 3185–3201.
<https://doi.org/10.1177/0042098017691464>
- Efriani, Hasanah, & Bayuardi, G. (2020). Kinship of Bidayuh Dayak Ethnic at the Border of Entikong-Indonesia and Tebedu-Malaysia. *Jurnal Etnografi Indonesia*, 5(1), 136–149.
- Eilenberg, M., & Wadley, R. L. (2009). Borderland livelihood strategies: The socio-economic significance of ethnicity in cross-border labour migration, West Kalimantan, Indonesia. *Asia Pacific Viewpoint*, 50(1), 58–73.
<https://doi.org/https://doi.org/10.1111/j.1467-8373.2009.01381.x>
- Fatmawati, & Dewantara, J. A. (2022). Social resilience of indigenous community on the border: Belief and confidence in anticipating the spread of COVID-19 through the Besamsam custom in the Dayak community. *Journal of Community & Applied Social Psychology*, n/a(n/a). <https://doi.org/https://doi.org/10.1002/casp.2611>
- Fetterman, D. M. (2010). *Ethnography: Third Edition*. In *SAGE Publications, Inc.* new delhi: SAGE Publications, Inc. <https://doi.org/10.4018/ijegr.2021100104>
- Martono, M., Dewantara, J. A., Efriani, E., & Prasetyo, W. H. (2022). The national identity on the border: Indonesian language awareness and attitudes through multi-ethnic community involvement. *Journal of Community Psychology*, 50(1), 111–125.
<https://doi.org/https://doi.org/10.1002/jcop.22505>

- Miles, M.B, Huberman, A. ., & Saldana, J. (2014). *Qualitative Data Analysis A Methods Sourcebook*, (3rd ed.). USA: Sage Publications.
- Olendo, Y. O., Dewantara, J. A., & Efriani. (2022). Tradition , ritual , and art of the Baliatn: The conceptualization of philosophy and the manifestation of spirituality among the Dayak Kanayatn. *Wacana, Journal of the Humanities of Indonesia*, 2(2), 491–518. <https://doi.org/110.17510/wacana.v23i2.1059.492>
- Sulistyarini, Dewantara, J. A., Purnama, S., & Mirzachaerulsyah, E. (2021a). Transnationalism threat to the indonesian society in the border area of indonesia-malaysia (study on camar bulan society). *Jurnal Pertahanan*, 7(3), 484–500.
- Sulistyarini, S., Dewantara, J. A., Purnama, S., & Mirzachaerulsyah, E. (2021b). Transnationalism Threat To the Indonesian Society in the Border Area of Indonesia-Malaysia (Study on Camar Bulan Society). *Jurnal Pertahanan: Media Informasi Tentang Kajian Dan Strategi Pertahanan Yang Mengedepankan Identity, Nasionalism Dan Integrity*, 7(3), 484–500. <https://doi.org/http://dx.doi.org/10.33172/jp.v7i3 .1346>
- Woo, P., Easthope, R., & Kyung-Sup, C. (2020). China’s ethnic minority and neoliberal developmental citizenship: Yanbian Koreans in perspective. *Citizenship Studies*, 24(7), 918–933. <https://doi.org/10.1080/13621025.2020.1812957>

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***Digital Transformation in the Banking Sector:
Efficiency on Economic Development in Vietnam***

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Abstract

In the development of technologies, digital transformation is one of the essential factors of the fourth industrial revolution, leading to digitizing all aspects of society. While many developed countries have made significant progress in digitalization, Vietnam is still in the early stages of its digital transformation journey. The study focuses on the advantages of digitalization in the banking sector and its broader implications for economic growth in Vietnam. By analyzing secondary data from various sources through R, including the Ministry of Information and Communications of Vietnam and commercial banks' annual reports, the paper investigates the positive relationship between the digital transformation indicator, the ICT (Information and Communication Technology) index, and Vietnamese commercial banks' net interest margin (NIM). This research demonstrates digitalization's benefits in preventing NIM equal to 0 ($p < 0.05$). The findings of this study can inform the State Bank of Vietnam's policymakers and banking institutions about the role of digital transformation in shaping the future of the Vietnamese economy.

Keywords: Vietnamese Banking Sector, ICT Index, Digital Transformation, Economic Growth

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1. Introduction

The Fourth Industrial Revolution, characterized by integrating digital technologies into various sectors, presents a pivotal opportunity for sustainable development and economic transformation. As noted by Pollitzer (2018), this revolution is a dominant force shaping the future of societies, economies, and the environment. Digital transformation has significantly altered financial services within the banking sector by adopting technologies such as artificial intelligence and the Internet of Things, fundamentally reshaping interactions and operations (Lugovsky, 2021). Additionally, this transformation is crucial in advancing the United Nations' Sustainable Development Goals, addressing global challenges across social, economic, and environmental dimensions (Galdino et al., 2023). The COVID-19 pandemic has further accelerated the necessity for digital transformation, as lockdowns and social distancing measures have shifted a vast array of commercial and social activities online, leading to an unprecedented increase in data consumption and reliance on digital infrastructure (Brannen et al., 2020). This digital shift is not uniform globally; while developed countries like Japan, China, and the United States have made substantial progress, developing nations, exemplified by Vietnam, are in the nascent stages of their digital transformation journeys, striving to integrate information technology into their economic frameworks.

Deputy Prime Minister Ha emphasizes that economic activities in Vietnam are rapidly shifting towards a green, knowledge-based, and low-carbon circular economy, with the digital economy at its core (Khoi, 2023). Because the banking sector is a modern service sector and the lifeblood of the entire economy, its activities span all socio-economic functions, closely intertwined with the overall economic dynamics. Therefore, leading the way in digital transformation, the banking sector has propelled other economic sectors to undergo digital transformation as well, collectively realizing the goals of the National Strategy for Socio-Economic Digital Development (SBV, 2023).

Moreover, under the management of The State Bank of Vietnam, the digital transformation strategy of the banking sector for the period of 2021-2030 has become an extremely crucial strategy, orienting the future development of the banking industry (SBV, 2023). This strategy aligns the banking sector's growth with the advancement of science and technology. It also creates the urgency to improve the legal framework and policies to create favorable conditions for developing digital payment and digital banking. Besides, it will ensure information security and safety in banking activities. Commercial banks need to promote the integration of linking goods, services, and platforms with other economic sectors and fields to create a digital ecosystem and provide clients with a smooth experience across all of the products and services they use.

According to the Department of Informatization, Ministry of Information and Communications of Vietnam (2023), digital transformation transfers all activities from traditional environments to digital environments, from actual society to cyberspace. This definition has become more and more popular while technology is developed; we can connect all over the world with technology devices such as mobile and laptops. With all the reasons above, this study thus investigates the necessity and efficiency of banking's digital transformation to Vietnamese economic growth. To demonstrate this point, this paper uses the panel data of twenty-six commercial banks and time series data of digital payment transaction values to emphasize the advantages of digitalization and its influences on the Vietnamese banking sector and general economic growth.

2. Literature Review

Digital transformation represents a research area that garners substantial interest among scholars and is a critical determinant of economic expansion. Digital transformation shifts customer expectations and creates new opportunities for business growth and innovation. Extensive literature exists on the role of digital transformation in facilitating economic growth (Pollitzer, 2018; Ndemo, 2021). Moreover, in an increasingly interconnected world, digital technologies are pivotal in reshaping economies, societies, and governance structures, offering innovative solutions to complex issues, and fostering inclusive growth.

Some studies assert that the banking industry, one of the forerunners in integrating technology into daily operations, has benefited from the digital revolution by having access to various options to connect and service many consumers, supporting all-encompassing financial development (Lugovsky, 2021; Wewege and Thomsett, 2020; Khams, 2022).

In summary, the various arguments presented underscore the increasing importance of digital transformation as a strategic approach to foster economic growth within the context of the Fourth Industrial Revolution. Furthermore, transitioning from traditional banking to digital banking will likely offer significant opportunities for cost reduction, enhancement of human resource quality in banks, and increased profitability through easier customer access to electronic platforms. However, there remains a notable need for quantitative analyses measuring the practical impact of digital transformation on economic development within the banking sector. Additionally, prior research in Vietnam has yet to explore the correlation between the Information and Communication Technology (ICT) index and the net interest margin (NIM).

3. Data and Methodology

The ICT index is the primary independent variable used to measure the digital transformation in the Vietnamese banking sector, and it was collected by the Ministry of Information and Communications of the Socialist Republic of Vietnam. With the first hypothesis, net interest margin (NIM) is the dependent variable that represents the assessment of the financial health of banks within the business domain. A high net interest margin (NIM) indicates that a bank is profitable. Other variables are calculated by the author according to the annual reports of twenty-six Vietnamese commercial banks from 2005 to 2022. Especially, to assess the efficiency of digital transformation on Vietnamese economic growth, this paper use digital payment transaction value from 2017 to 2022 through Statista and some economic indicators data from World Banks.

Table 1. Summarize data of analyzing the correlation between ICT index and Net interest margin (NIM) from 2005 to 2022

Variable	N	Mean	Standard Deviation	Minimum	Maximum
NIM	468	0.0298	0.0129	-0.0078	0.0908
ICT	468	0.3692	0.2832	0	1.0000
SIZE	468	31.2518	5.1181	0	35.2905
Non-performing loan (NPL)	468	0.0154	0.0161	0	0.1793
Liquidity risk (LIQ)	468	0.5184	0.1657	0	0.9245
Bank risk (RISK)	468	0.0120	0.0065	0	0.0378
Operational efficiency (OPC)	468	0.0157	0.0063	0	0.0470
Capital adequacy (CAR)	468	0.1026	0.0712	0	0.7121

Source: Author's construction¹

This study employs flexible quantitative models to measure the effectiveness of digital transformation on the banking sector and the Vietnamese economy. To examine digital transformation's impact on bank performance through net interest margin indicator, one-way and two-way Pooled OLS, fixed effect model and random effect model are used with a multiple linear regression model as below:

$$NIM_{it} = \beta_0 + \beta_1 ICT_{it} + \beta_2 SIZE_{it} + \beta_3 FI_{it} + u_{it} \quad (1)$$

Where

NIM_{it} is the net interest margin (NIM) of commercial bank i in year t ;

α_0 is constant term;

ICT_{it} is ICT index of commercial bank;

$SIZE_{it}$ is natural logarithm of total asset.

FI_{it} is a vector of some financial ratio of Vietnam commercial bank – non-performing loan (NPL) is defined as the ratio of overdue debt to total outstanding debt; liquidity risk (LIQ) is measured as customer loans divided short-term financing; bank risk (RISK) is the ratio of credit risk provisions to total loans; operational efficiency (OPC) is measured as operating costs and total assets; and capital adequacy (CAR) is defined as equity capital divided by total assets with risk-weighted.

4. Results

This paper aims to demonstrate the effectiveness of digital transformation in the growth of the Vietnamese banking sector by analyzing the correlation between economic factors and independent variables using a quantitative approach and R (Posit) software.

First, using panel data from Vietnamese commercial banks and econometric models such as Pooled OLS, fixed effect model, and random effect model, the first hypothesis highlights how

¹ Data source: Ministry of Information and Communications of the Socialist Republic of Vietnam and Vietnamese commercial banks' annual report

ICT has a beneficial impact on NIM. It is said that the banking industry is benefiting from the efficiency of digital transformation. The Hausman test validates the applicability of the random effects model in this analytical setting, emphasizing how well it captures the dynamics of time effects in the dataset.

Table 2. *Regression results of panel data*

	Dependent variable					
	Net interest margin (NIM)					
	One-way model			Two-way model		
	Pooled OLS	FE	RE	Pooled OLS	FE	RE
Digital transformation (ICT)	0.006*** (0.002)	0.007*** (0.002)	0.006*** (0.002)	0.006*** (0.002)	0.008*** (0.002)	0.007*** (0.002)
Size of bank (SIZE)	0.00003 (0.0001)	-0.00003 (0.0001)	-0.00002 (0.0001)	0.00003 (0.0001)	-0.00001 (0.0001)	-0.00001 (0.0001)
Non-performing loan (NPL)	-0.008 (0.030)	0.023 (0.028)	0.018 (0.027)	-0.008 (0.030)	0.025 (0.030)	0.020 (0.028)
Liquidity risk (LIQ)	0.010*** (0.003)	0.016*** (0.003)	0.015*** (0.003)	0.010*** (0.003)	0.017*** (0.004)	0.016*** (0.003)
Bank risk (RISK)	0.116 (0.081)	0.145* (0.085)	0.159* (0.082)	0.116 (0.081)	0.188** (0.087)	0.162** (0.082)
Operational efficiency (OPC)	1.019*** (0.081)	0.776*** (0.084)	0.814*** (0.083)	1.019*** (0.081)	0.765*** (0.090)	0.806*** (0.083)
Capital adequacy (CAR)	0.049*** (0.007)	0.060*** (0.006)	0.058*** (0.006)	0.049*** (0.007)	0.059*** (0.007)	0.058*** (0.006)
Observations	468	468	468	468	468	468
Adjust R-squared	0.507	0.472	0.502	0.507	0.457	0.503
F-Statistic	69.737*** (df = 7; 460)	64.139*** (df = 7; 435)	478.293* **	69.737** *	64.139** *	478.293* **

* Significant at 10%. ** Significant at 5%. *** Significant at 1%.

Source: Analyzing by author by using RStudio

The regression analysis presented in Table 3 investigates the influence of various predictors on the dependent variable, NIM, across both one-way and two-way models. The results indicate that the ICT index consistently exerts a significant positive impact on NIM, as evidenced by coefficients ranging from 0.006 to 0.008, significant at the 1% level. Similarly, liquidity (LIQ), risk (RISK), operational capability (OPC), and capital adequacy ratio (CAR) also show positive and statistically significant relationships with NIM across all models, suggesting that increases in these variables are associated with enhancements in NIM. Conversely, the size of the entity (SIZE) and non-performing loans (NPL) exhibit negligible and non-significant effects, indicating a minimal influence on the dependent variable. The

robustness of the models is confirmed by high adjust R-squared values of approximately 0.457 to 0.507 and significant F-statistics, demonstrating that the models possess strong explanatory power and adequately capture the variability in NIM. These consistent findings across the two models affirm the reliability of the models and the stability of the variable effects on NIM, enhancing the robustness of the analytical approach employed.

5. Discussion

This study's results indicate that the value of digital transformation positively impacts effective capital utilization and enhanced profitability within the bank, notably, and the Vietnamese economy's growth in general. Furthermore, digitalization can help reduce expenditure in Vietnamese commercial banks in the long term. This study produced results that corroborate the findings of a great deal of the previous work in this field. These results agree with the findings of other studies, in which the digital transformation in the banking sector promotes Vietnam's economic development.

NIM, also known as Net Interest Margin, plays a pivotal role in assessing the financial health of banks within the business domain. A high NIM signifies a bank's adeptness at generating profits. However, there has been a recent contraction in banks' NIMs. This trend can be attributed to Vietnamese commercial banks' proactive measures in lowering loan interest rates to provide vital support to individuals and businesses grappling with economic challenges. This strategic move aims to stimulate borrowing and economic activity. Despite these efforts, banks need more support in significantly reducing input savings interest rates, which impacts their overall NIM. This scenario underscores the delicate balance banks must strike between supporting borrowers and managing their profitability. As economic conditions evolve, banks will continue navigating these complexities to maintain a healthy NIM and ensure sustainable financial performance. Vietnamese commercial banks striving to maintain the upward trajectory of NIM recovery must persist in enhancing their financial competencies and managerial strategies, with an emphasis on adhering to global benchmarks like Basel II and Basel III (Trang, 2024). Efficient management practices play a crucial role in diminishing operational expenditures and augmenting NIM. Concurrently, the reorganization of offerings and services is imperative for augmenting revenue streams within this domain. Presently, numerous banks are fervently advancing innovative services and embracing digitalization to amplify non-interest revenue and bolster the institution's NIM. The active shift towards digital platforms also serves to optimize operational outlays, constituting a favorable factor in NIM recuperation efforts. With statistically significant results, this study found that digitalization helps increase the net interest margin of Vietnamese commercial banks. This finding confirms that digitalization is associated with the profitability of Vietnam's banking sector, which is one of Vietnam's crucial goals. At the same time, all commercial banks are trying to prevent the NIM from being zero during this economic depression after the effect of the COVID-19 pandemic. This finding has important implications for promoting digital transformation. Besides, this finding further supports the idea that digital transformation impacts Vietnamese banks' performance by analyzing the association between the ICT index and the ROA index or assessing the efficiency of digitalization through qualitative methods. These results match those observed in earlier studies.

Although Vietnam's digital transition offers hope, several obstacles must be overcome to realize its full potential. Still in its infancy, the legal structure regulating digital transactions and services must change quickly to keep up with the rapid advancement of technology,

which will need clarification for both customers and businesses. Furthermore, a significant obstacle to the broad adoption of digital payment methods in Vietnam is the deeply established preference of a sizable percentage of the populace for cash-based transactions. The digital environment has many advantages but also increases the possibility of fraud. The global semiconductor shortage, which limits the accessibility and cost of necessary digital systems and devices, exacerbates this worry even more.

Moreover, Vietnam needs highly qualified information technology experts to lead and maintain digital innovation. The glaring disparity in digital access between urban and rural areas exacerbates these problems. A more cohesive and inclusive strategy for Vietnam's digital transformation is required because rural areas frequently need to catch up regarding access to and infrastructure for information technology. This creates a huge imbalance.

In summary, there are several possible explanations for these results. Amidst the prevailing surge in technological advancements, digital transformation has emerged as a pivotal and imperative objective, facilitating economic expansion across developed and developing nations. The ongoing integration process compels nations, exemplified by Vietnam, to pursue significant advancements in digital transformation. This endeavor is essential for aligning with the pace of global growth and fulfilling global sustainable development objectives. However, while Vietnam's digital transformation presents promising prospects, several challenges necessitate mitigation to unlock its full potential.

6. Conclusion

This study emphasizes the critical role of digital transformation in the banking sector as a catalyst for Vietnam's economic growth. This is the first time that net interest margin has been used to explore the advantages of digitalization in Vietnamese commercial banks. Digital integration within banks offers substantial benefits, including improved transaction efficiency and expanded market accessibility, which collectively drive economic expansion. However, this transformation has its challenges. Significant hurdles include the need for an evolving legal framework, alignment with shifting consumer preferences, managing fraud risks, addressing technological shortages, and mitigating disparities in IT infrastructure and human resource. These elements necessitate a strategic and holistic approach to digital transformation in the banking industry. Adopting a balanced, well-informed, and flexible strategy that capitalizes on the benefits of digitalization and addresses its potential drawbacks is imperative. Such a strategic approach is crucial for fostering a resilient and inclusive digital financial ecosystem that supports sustained economic development in Vietnam. This comprehensive strategy requires continuous adaptation and integration of technological advancements, regulatory updates, and consumer-centric practices to navigate the complexities of digital transformation effectively. The pace of digital transformation in the banking and financial sectors is expected to accelerate, underscoring the importance of proactive and adaptive strategic planning.

In conclusion, the analysis underscores the necessity of formulating key policies to foster long-term digitalization within Vietnam's banking sector. A comprehensive strategy is essential to advance digital transformation effectively. The findings of this study have several important implications for future practice and make numerous recommendations for encouraging digital transformation in the banking sector in Vietnam. Because Vietnamese banking sector's digitalization has just started since 2017, it requires prolonged observation and further researches to assess both the positive and negative impacts of this process.

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References

- An, P. H., & Loan, V. T. (2016). Factors affecting net interest margin of joint-stock commercial banks. *Journal of Economics Development*, 24, 90-101.
- Andreas Behr. (2015). *Production and Efficiency Analysis with R*. 184-222.
- Angori G, Aristei D, Gallo M. (2019). Determinants of Banks' Net Interest Margin: Evidence from the Euro Area during the Crisis and Post-Crisis Period. *Sustainability*, 11(14):3785. <https://doi.org/10.3390/su11143785>
- Brannen. S, Christian Stirling Haig, Habiba Ahmed, Henry Newton (2020), Covid-19 Reshapes the Future. *The Center for Strategic and International Studies (CSIS)*. Retrieved from: <https://www.csis.org/analysis/covid-19-reshapes-future>
- Dung Pham Tien (2022). Digital transformation of banking services in Vietnam in 2021: Overcoming epidemic challenges, taking advantage of the Fourth Industrial Revolution. *Vietnamese Banking Magazine*. Retrieved from <https://tapchinganhang.gov.vn/chuyen-doi-so-dich-vu-ngan-hang-viet-nam-nam-2021-vuot-qua-thach-thuc-dich-benh-tan-dung-thoi-co-cac.htm>
- Dung Pham Tien (2023). Digital transformation of the banking sector: Actively contributing to the national digital transformation. *Vietnamese Banking Magazine*. Retrieved from: <https://tapchinganhang.gov.vn/chuyen-doi-so-nganh-ngan-hang-dong-gop-tich-cuc-vao-cong-cuoc-chuyen-doi-so-quoc-gia.htm>
- Galdino, L., Santos, M., Soumaya, A., & Dhaou, B (2023). Open data and emerging technologies: Connecting SDG performance and digital transformation. Retrieved from: <https://cyberbrics.info/open-data-and-emerging-technologies-connecting-sdg-performance-and-digital-transformation/>
- IBM (n.d.). What is digital transformation? Retrieved from: <https://www.ibm.com/topics/digital-transformation>
- Islam, S., & Nishiyama. (2015). The determinants of bank net interest margins: A panel evidence from South Asian countries.
- Khams, A. A. (2022). The impact of digital transformation on staffing strategy in banking sector: A case study of Egypt. *Revista De Management Comparat International*, 23(2), July 2022, 454-474. doi: <https://www.rmci.ase.ro/no23vol3/11.pdf>
- Khoi. (2023). Vietnam is on the path to digital transformation. *Vietnamese Government Electronic Newspaper*. Retrieved from <https://baochinhphu.vn/viet-nam-dang-tren-con-duong-chuyen-doi-so-10223052418433785.htm>
- Lien Hoang. (2021). Mastercard aims to partner with Vietnam's e-wallets using fintech. *Nikkei Asia*. Retrieved from: <https://asia.nikkei.com/Editor-s-Picks/Interview/Mastercard-aims-to-partner-with-Vietnam-s-e-wallets-using-fintech>

- Lugovsky, V. (2021). Digital Transformation In Banking: How to make the change. Retrieved from <<https://www.forbes.com/sites/forbesbusinesscouncil/2021/12/29/digital-transformation-in-banking-how-to-make-the-change/?sh=7108b0316999>>
- Ministry of Foreign Affairs of Vietnam (MOFA). (2023). Mastercard helps elevate Viet Nam's cashless momentum through payments innovations. *The World and Vietnam Report*. Retrieved from: <https://en.baoquocte.vn/mastercard-helps-elevate-viet-nams-cashless-momentum-through-payments-innovations-241664.html>
- Ministry of Information and Communications of Vietnam. (2023). Digital transformation centers to be established across Vietnam. Retrieved from: <https://english.mic.gov.vn/digital-transformation-centers-to-be-established-across-vietnam-197159971.htm>
- Ministry of Information and Communications of Vietnam. (2023). What is digital transformation? Retrieved from: <https://dx.mic.gov.vn/docs/chuyen-doi-so-la-gi/>
- Ministry of Information and Communications of Vietnam. (2023). Readiness Index Report for Development and Application of Information and Communication Technology (ICT) in Vietnam in 2022, 127-132. Retrieved from: https://egov.chinhphu.vn/Resources/2024_02_05/37917/Bao-cao-VN-ICT-Index-2022---20230920.pdf
- Nguyen, Q.T.T., Ho, L.T.H. and Nguyen, D.T. (2023). "Digitalization and bank profitability: evidence from an emerging country", *International Journal of Bank Marketing*, Vol. 41 No. 7, pp. 1847-1871. <https://doi.org/10.1108/IJBM-03-2023-0156>
- Oanh Nguyen & Huyen Doan. (2022). Transforming digital banking in the context of the 4th industrial revolution and some recommendations for Vietnam. *Vietnamese Banking Magazine*. Retrieved from <https://tapchinganhang.gov.vn/chuyen-doi-ngan-hang-so-trong-boi-canh-cuoc-cach-mang-cong-nghiep-lan-thu-tu-va-mot-so-khuyen-nghi.htm>
- Pollitzer, E. (2018). Creating a better future; four scenarios for how digital technologies could change the world. *Journal of International Affairs*, 72(1), 75-90. Retrieved from <https://www.jstor.org/stable/26588344>
- Saksonova, Svetlana. (2014). The Role of Net Interest Margin in Improving Banks' Asset Structure and Assessing the Stability and Efficiency of their Operations. *Procedia - Social and Behavioral Sciences*. 150. 132-141. 10.1016/j.sbspro.2014.09.017
- Setiawan, C., & Wisna, N. M. M. M. (2021). The Determinants of Net Interest Margin: An Empirical Study of Indonesia Category-IV Banks for the Period of 2014-2017. *Editorial Universidad de Almeria*. 10.25115/eea.v39i12.6179
- The State Bank of Vietnam. (2023). Annual report 2022. Publication date: December 29, 2023. Retrieved from: <https://www.sbv.gov.vn/webcenter/ShowProperty?nodeId=/UCMServer/SBV585827//idcPrimaryFile&revision=latestreleased>

- Thuy, Nguyen. (2021). ICT and Bank Performance: Empirical Evidence from Vietnam. *Journal of Contemporary Issues in Business and Government*. 27. 4149-4153. 10.47750/cibg.2021.27.02.433
- Trang Do, Vy Le, Huyen Le, Tuyen Tran. (2022). Factors influencing net interest margin (NIM) of joint stock commercial banks in Vietnam. *Industry and Trade Magazine of Vietnam*. Retrieved from: <https://tapchicongthuong.vn/bai-viet/cac-nhan-to-anh-huong-den-bien-lai-rong-nim-cua-cac-ngan-hang-thuong-mai-co-phan-tai-viet-nam-87675.htm>
- Trang Q. (2024). Bank NIM will improve, but there will be differentiation. Vietnam Banking Times. Retrieved from: https://thoibaonganhang.vn/nim-ngan-hang-se-cai-thien-nhung-co-phan-hoa-150554.html?fbclid=IwAR3l1ekyWruIhepkwpupH_7SVY1-EDqMIRiU82lGmOQqi0J844ZENTMTbOE_aem_AcZTOLQL3Tx-KBV3y9EMvtTO1vFrFVU7Ys8VdUMK8AAJu4JR79mLKLuPZ2nbNK6aVn6aKByTKudDbGwBeoiS2-F3
- Vietnam Banking Times. (2023). The Banking Industry creates motivation for digital transformation in the entire economy. Retrieved from <https://thoibaonganhang.vn/nganh-ngan-hang-tao-dong-luc-chuyen-doi-so-ca-nen-kinh-te-138881.html>
- Vietnam Prime Minister. (2012). Decision 254/QĐ-TTg: Approve the Project "System restructuring credit institutions in the period 2011 - 2015".
- Vietnam Prime Minister. (2017). Decision 622/QĐ-TTg: On the issuance of the National Action Plan for the Implementation of the 2030 Sustainable Development Agenda.
- Vinh Hoang, Le & Ngo Van, Toan & Quang, Pham. (2023). Non-Linear Impact of ICT on profitability of commercial banks in Vietnam. https://www.researchgate.net/publication/370496586_NON-LINEAR_IMPACT_OF_ICT_ON_PROFITABILITY_OF_COMMERCIAL_BANKS_IN_VIETNAM_4
- VnEconomy. (2022). The 15 billion VND investment in the digitalization of the bank sector finally bore fruits. Retrieved from: <https://vneconomy.vn/qua-ngot-tu-15-000-ty-dau-tu-chuyen-doi-so-nganh-ngan-hang.htm>
- Wewege, L. & Thomsett, M. (2020). The Digital Banking Revolution: How Fintech Companies are Transforming the Retail Banking Industry Through Disruptive Financial Innovation. *Berlin, Boston: De Gruyter*. <https://doi.org/10.1515/9781547401598> Publication date: December 2, 2019.

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Brainpower Process: Understanding Chinese Talent Flow Between China and Australia

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Official Conference Proceedings**Abstract**

Despite extensive research on Chinese talent flow between the home and host countries, little is known about the talent flow between China and Australia. This research addresses a gap in the existing body of knowledge regarding the flow of Chinese talent between these two countries. Scholars describe the flow of talent through several prominent “brain” concepts such as brain drain, brain circulation, and, most recently, brain linkage. This study aims to investigate the characteristics of talent flow between China and Australia. The study conducted 22 semi-structured interviews with Chinese talent who moved to Australia as Chinese international students. After they graduated from Australian universities, most participants remained and gained work experiences in knowledge-based industries before becoming entrepreneurs in Australia. Some returned to China, however most decided to stay in Australia. The research sheds light on the complex interplay of factors influencing Chinese talent flow, its dynamics and contingency on various factors and individual decisions. The push-and-pull theory serves as a framework to explore the factors shaping talent flow. Notably, this study has found that Chinese talent combine Australia’s work-life balance with China’s economic opportunities, benefiting both individuals and the two nations. The research highlights the temporal nature of talent decisions, with participants often delaying their return to China until favourable prospects emerge, such as improved business opportunities or familial responsibilities. Overall, the study argues that integrating brain concepts and the push-and-pull theory provides valuable insights into the current dynamics of talent flow.

Keywords: China, Australia, Chinese Talent, Brain Drain, Brain Circulation, Brain Linkage

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Introduction

China has experienced an extraordinary outflow of talent. Such flow is most apparent through the departure of Chinese students who travel overseas to study but later choose to stay in the host country for whatever reason (Blanchford & Zhang, 2014, p.206). By 2008, approximately 1.4 million Chinese travelled overseas to study, and around 390,000 had only returned to China (Han & Zweig, 2010, p.293; Shin & Moon, 2018, p.11). By other estimates, according to the Chinese government (Ministry of Education, 2020), from 1978 to 2019, over 6.5 million Chinese students or scholars studied overseas. By the end of 2019, around 1,656,200 were still studying or researching, while 4,904,400 had completed their studies. Of this number, 4,231,700 (or 86.28 per cent) students and scholars chose to return to their home country after completing their studies (Ministry of Education, 2020).

Overseas education, including higher education, is popular among Chinese families in Mainland China. While there are many options globally, certain countries are preferred, notably Western nations like the United States, the United Kingdom, Canada, and Australia. Additionally, some Asian countries, such as Japan and South Korea, have also become popular destinations. China is also a significant economic partner and a major source of international students for countries like Australia.

China is important to Australia, whether in economic terms, such as trade and economic relations or cultural connections between the nations through the Chinese diaspora in the country. China is Australia's largest trading partner. Australia's prosperity relies heavily on trade and investment with China. By the end of 2021, Chinese investment in Australia reached AUD 92 billion. In 2020-21, China bought AUD 168 billion of Australia's exports, accounting for 42 per cent of its total exports. China is Australia's top overseas market for many exports, including agriculture, resources, services, and education, including international (DFAT, n.d.). Global student mobility has become essential to the international higher education landscape (Cao et al., 2016, p.200). Overseas students paying higher tuition fees than domestic students present an attractive market for universities (Su and Harrison 2016, p.906). For example, Australian total education exports reached over AUD 40 billion in 2019 and over AUD 26 billion in 2022. From the total education export, higher education in 2019 was worth over AUD 27 billion and over AUD 17 billion in 2022 (Department of Education, 2023). The economic relationship between the two nations is also significant for international education in Australia. China is also the largest source of international students in Australia. For many years, China has been Australia's top and largest source of international students (Department of Education, 2023). Over 745,500 Chinese students studied in Australia between 2002 and 2022 (Department of Education, 2023). As of July 2023, over 152,000 international students from Mainland China were studying in Australia (Department of Education, 2023).

Australia is one of the top preferred destinations for Chinese international students. Generally, Australia is the third most popular country, after the United States and the United Kingdom. Australia's popularity among Chinese international students is due to its affordable education costs and welcoming immigration policies with options for skilled migration and permanent residence (Tan & Hugo, 2016; Zhai et al., 2019). After completing their studies, many students decide to remain in Australia to gain work experience or to migrate permanently, thus further exacerbating China's problem of losing talent. As a host country, Australia stores China's brainpower. In some instances, the storage is temporary; in others, it is longer-term or even permanent when the individual does not wish to return to China. For

example, according to the Australian Bureau of Statistics (2023), Mainland China was among the five most common countries of birth for migrants who transitioned from a temporary visa (such as a student visa) to a permanent visa in Australia.

While the rate of returnees may have increased, in their paper, Zweig and Wang (2013) argued that China's best and brightest talent still prefer to stay overseas. Thus, this further exacerbates the brain drain problem that China has been suffering from (Yang & Welch, 2010, p.595; Yang, 2020, p.58). Chinese talent who decide not to return to China and remain in the host country, often become part of the Chinese overseas community or diaspora, including the knowledge diaspora whose connections to their home country do not stop existing (Welch & Hao, 2016). The existing connection to China provides beneficial opportunities for the home country. It allows the Chinese government to access it through talent attraction policies or by creating appropriate conditions and environments for them to return.

Unlike many studies that limit the scope of talent flow to examining when Chinese students leave China for overseas study or just after graduation and return to China, this research explored a broader view of Chinese talent and their journey. The talent flow of the research participants consisted of three main steps. This study followed their steps of the journey from 1) when they departed Mainland China and arrived in Australia as international students, 2) the time spent in the host country, specifically when they became knowledge workers and entrepreneurs, and 3) finally, their decisions as representatives of Chinese talent to either return to China or remain in Australia. To better understand this flow, this study examined factors that drive Chinese talent to study overseas, their experiences living and working abroad, the advantages and knowledge they gain while overseas, and future intentions to return to China.

Scholars have captured talent flow through well-known concepts such as brain drain (Deng, 1992; Pedersen, 1992; Saxenian, 2002), brain circulation (Saxenian, 2006), and brain linkage (Shin & Choi, 2015; Shin & Moon, 2018). While brain drain, brain circulation, and brain linkage were developed separately and, therefore, as distinct concepts, they do not provide the complete picture of Chinese talent flow. Instead, to have a more holistic view and better capture the complexity of Chinese talent and its flow, this study examined each concept in conjunction with each other. This study refers to these three main concepts used as brain concepts. Factors influencing the flow of talent through brain concepts can be explained by applying the push-and-pull model commonly used in international education, economic geography, and migration literature. These brain concepts and the push-and-pull model provided the theoretical framework for this study.

Brain Concepts

In academic literature, brain drain is traditionally perceived negatively, especially for developing countries. The loss of highly skilled individuals is seen as a permanent detriment, hindering these countries' development (Cao, 1996). This perspective views brain drain as a one-way flow of talent, where developing countries lose their best minds to more developed nations, thus exacerbating their developmental challenges.

However, contrary perspectives exist. Some scholars argue that brain drain does not necessarily equate to a permanent loss. They suggest that talent will eventually return to their home countries, especially when the economic and political conditions improve (Deng, 1992;

Pedersen, 1992). This perspective sees the migration of skilled professionals as temporary, with the potential for positive returns when these individuals bring back their acquired knowledge and skills.

The concept of brain circulation offers a more nuanced understanding of skilled migration. Unlike brain drain, brain circulation emphasizes the two-way movement of professionals between home and host countries. AnnaLee Saxenian, a prominent scholar in economic geography, describes this phenomenon where emigrants return to their home countries, bringing back valuable skills, establishing business relationships, and starting new companies (Saxenian, 2006). This model transforms the negative connotations of brain drain into a positive cycle of talent and knowledge exchange.

Saxenian's work and other studies highlight how professionals from developing countries like China and India return home to contribute to their local economies while maintaining connections with their host countries (Saxenian, 2002; Welch, 2013). This circulation of talent fosters economic growth and innovation, benefiting both home and host countries. For example, Chinese engineers and entrepreneurs frequently move between the United States and China, contributing to both economies and enhancing bilateral relations (Saxenian, 2005).

While brain drain and brain circulation focus on the outflow and inflow of talent between home and host countries, the concept of brain linkage describes a scenario where emigrants maintain strong connections with their home countries without necessarily returning permanently. This model, introduced by Shin and Choi (2015), focuses on the ongoing interaction and collaboration between emigrants and their countries of origin. It highlights how the diaspora can contribute to their home country's development through business visits, short-term stays, and continuous professional engagement.

The push-and-pull model is a prominent framework used in academic literature to explore the reasons behind individuals' decisions to migrate, especially in the context of higher education, economic geography, and migration studies. This model has been extensively applied to understand the mobility of Chinese talent, including international students and professionals (Mazzarol & Soutar, 2002; Liu et al., 2022). The push-and-pull model is particularly relevant in understanding international student mobility. It helps to analyse why students decide to study abroad and what factors make a particular host country attractive. For instance, push factors in the home country may initiate the decision to seek education abroad, while pull factors in the host country make it an appealing destination for international students (Mazzarol & Soutar, 2002).

Methodology

This study used a qualitative research approach with in-depth, semi-structured interviews of 22 participants. This method allowed for the discovery of various cultural, political, and social factors not available from secondary sources, providing nuanced data for analysis. The participants, who moved to Australia from Mainland China, had studied and attained higher education qualifications from Australian universities. The group consisted of 15 female and seven male participants, all interviewed in English with an intermediate level of proficiency. Interviews, conducted between 2020 and 2021, lasted about 60 minutes each. If a participant did not understand a question, the interviewer paraphrased it to ensure comprehension. Ethics

approval was obtained from the Curtin University Human Research Ethics Committee prior to the study.

All interviews were recorded and transcribed using speech-to-text software. To ensure data reliability and identify recurring themes, the researcher repeatedly compared the recordings to the transcriptions. Data saturation was reached after interviewing 22 participants, aligning with Charmaz's (2006) guideline that qualitative studies stop collecting new data when no new insights emerge. The study used both deductive and inductive thematic data analysis, employing qualitative coding to develop and test categories and themes with existing concepts. NVivo software was used for coding and data analysis.

Brainpower Process and Influencing Key Factors in the Context of the Research Participants' Flow as Chinese Talent

Cultivating talent and knowledge is a core national strategy under President Xi Jinping's leadership, crucial for China's modernisation. The government aims to transition its economy to a knowledge-based model, emphasizing a future built on intellectual resources rather than physical labour (Simon & Cao, 2009a; b). However, China faces a shortage of skilled local talent due to many individuals seeking education and career opportunities abroad, raising the risk of brain drain. To mitigate this, the Chinese government has focused on attracting overseas Chinese talent since the 1990s by improving living and working conditions in Mainland China (Pedersen, 1992).

Early efforts prioritized high-level talent, such as scientists and academics, and later expanded to include other professionals and entrepreneurs. Various programs have been developed to encourage overseas-educated talent to return, including the Yangtze River Scholars Program, Spring Light Plan, 100 Talents Plan, 1,000 Talents Plan, 111 Program, Distinguished Overseas Scholars Program, Project 985, Double First Class, and the National Medium and Long-term Talent Development Plan.

Although academic literature and government data indicate an increase in returning overseas talent, some still choose to remain in host countries (Zweig, 2006; Ministry of Education, 2020). These individuals often become part of the Chinese knowledge diaspora, contributing to China's economic growth from abroad. Recognizing the value of this diaspora, the Chinese government has invested significant effort and resources to engage and attract it to meet China's economic needs.

The government has been finding ways to access it better and attract Chinese talent from the knowledge diaspora to return to China, preferably permanently or alternatively on a temporary basis. Scholars like Welch and Hao (2013) highlighted one crucial aspect of the knowledge diaspora. The knowledge diaspora desires to contribute to China's development due to their belonging through culture and identity. The diaspora contributes through their knowledge transfer, investments, trade, international networks, advanced technology, and managerial know-how transmission. Members of the knowledge diaspora often act as a bridge between Mainland China and the rest of the world. The studies by Saxenian (2006) and Yang and Welch (2010) showed the contribution of Chinese talent as knowledge-bridges that help connect China with the international business and scholarly communities.

Similarly, as creators and carriers of knowledge who are highly educated, skilled, and entrepreneurial, the research participants of this study are the representatives of this Chinese

knowledge diaspora that is part of China's growing. This study found that the research participants are connected to their home country through belonging, culture, identity, family, history, and most of them contribute to the home country and connect it with Australia and vice versa through their entrepreneurial activities.

All research participants are born during the period of China's vast economic growth starting from the late 1970s. Since the 2000s, the rise of China's middle class has led many families to send their children to study overseas. One of the main goals of sending children abroad has been to develop their human capital, including education and work experiences, to help uplift their competitiveness and social mobility in China's employment market when they return. This study found that while in Australia, the research participants have not only developed their human capital. They have also become knowledge workers and entrepreneurs with high levels of human and social capital and skills that required to knowledge economies who have been acting as transnational bridges between China and Australia.

This study found that in order to become part of China's brainpower, the research participants need to undertake specific steps during their journey. These steps are represented through concepts like brain drain, brain circulation, and brain linkage. In this study, I refer to this process as the brainpower process, which is driven by the main discovered push and pull factors that help explain it.

This study argues that focusing on each brain concept alone to understand such a complex phenomenon of the Chinese Talent's flow is complicated and has limitations. Instead, this research examined and applied these concepts alongside each other as one brain concept contributes, impacts, and leads to another. This process is not consistent. Depending on the talent's factors and decisions, the concepts can change.

The research participants in this study are heterogenous, representing several groups of Chinese talent, such as international students, knowledge workers, and entrepreneurs. They are driven by various push and pull factors during different stages of their talent journeys. An overview of the research participants' journey as the representatives of Chinese talent is summarised below. The talent flow outlined in Figure 1 involves the research participants' departure from China as international students, the time spent in Australia as international students, knowledge workers, and later as entrepreneurs, including a short-term return to China for work by some participants. It also comprises the research participants' decision to remain in Australia and return to China for some.

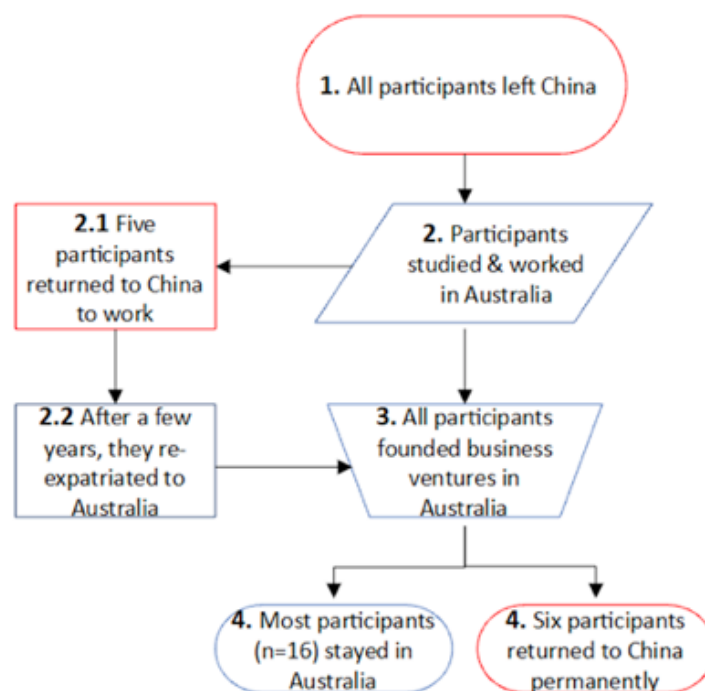


Figure 1: Overview of the research participants' talent flow

If relying on the traditional notion of the brain drain concept, this initial departure from China to Australia by the research participants as international students (step 1 in Figure 1) carries negative connotations. The implications of the departure may be considered as a permanent loss of Chinese talent for the home country, thus contributing to China's problem of brain drain. While this study acknowledges that there is a risk of loss when talent leave China, for instance, they may never return or ever contribute to their home country. However, this research agrees with some previous academic studies on Chinese talent and its flow. Notably, studies conducted by Deng (1992), Pedersen (1992), and Zweig (1997), which argued that Chinese talent based overseas want to return to their home country. They even contribute to China and its economic development and growth through their existing connections with the home country (Saxenian, 2005, 2006; Yang & Welch, 2010), thus making a permanent loss very unlikely.

In addition, this study claims that the brain drain concept is inadequate to fully explain the research participants' journey as Chinese talent, specifically their departure from their home country. Chinese Talent in this study also want to return to China. In fact, at the time of this research, six research participants had already returned to China on a permanent basis, while most have considered their potential return in the future. While Chinese talent were in Australia as international students, instead of a permanent loss of talent for Mainland China, there was a short pause in the brain processes which led to a potential gain for China in the form of required knowledge and skills. I refer to this pause as "brain pause". During this "brain pause" for the home country (step 2 in Figure 1), the research participants began to acquire human capital, social capital, and entrepreneurial experiences that are in high demand in knowledge economies.

After a short brain pause, in pursuit of better career opportunities within knowledge-based industries than what the host country could offer, five research participants (step 2.1 in Figure 1) decided to return to China permanently (or that's what they thought initially). These

participants returned to China carrying with them new knowledge. In academic literature, this return to the home country (albeit temporary for this particular cohort of the research participants) is described as a brain circulation where China and its economy benefited from their return and gained knowledge from the host country. However, after several years of working in knowledge industries in China, some research participants eventually decided to re-expatriate to Australia (step 2.2 in Figure 1). In this instance, the traditional notion of brain drain would consider the second departure by these five research participants as knowledge workers from their home country as a permanent loss. Once again, this concept is limited and does not fully represent the talent flow among the participants in this research. With the re-expatriation or second departure, the brain circulation that benefited China now transitioned into the brain pause instead of brain drain. During this second brain pause of their journey, the participants who returned to Australia alongside the remaining research participants in the host country continued to develop their human and social capital and acquire entrepreneurial experiences further while focusing on bridging the relationship between the home and host countries (step 3 in Figure 1). Most Chinese talent established business ventures with a connection to China or the Chinese community in Australia. This step of the research participants' journey is associated with the concept of brain linkage.

While being in the host country and contributing to the home country, the research participants had to consider remaining in the host country or return to China (step 4 in Figure 1). From all these research participants contributing to China and Australia through brain linkage, six research participants returned to their home country permanently. Similar to those participants who temporarily moved back to China for career opportunities, they carried their knowledge in the form of business ventures, skills, and expertise from Australia to their home country. Most of these participants have business ventures in the Technology sector (specifically fin-tech and AI) operating in China and still maintain their connection with Australia. This permanent return by these participants has contributed to China's brain circulation.

While this study claims that the research participants' departure as Chinese talent does not lead to a permanent loss for China, it acknowledges the brain drain concept and risks associated with the departures. In this instance, brain drain is the crucial starting point of the research participants' journey to becoming the Chinese talent and being part of China's growing brainpower. However, after examining the departure and the following steps of their journey, this study found that, in comparison to other brain concepts in this research, the concept of brain drain plays lesser significance and applicability. In contrast, brain circulation and, especially, brain linkage best describe the research participants' flow between China and Australia.

This study found that brain circulation is mostly relevant to those who returned to China permanently. In contrast, despite a small number of the research participants who returned to China permanently, most participants decided to remain in Australia, indicating the concept of brain linkage is more prevalent than other concepts in the context of describing the research participants' flow. In fact, the concept of brain linkage provides them with flexibility, such that they can utilise and benefit from each country, the host and home. An overview of this brainpower process, which was explained above, is shown in Figure 2 below.

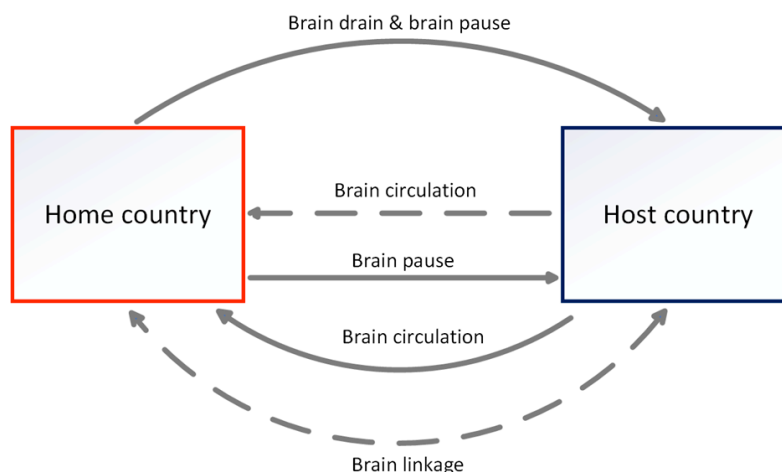


Figure 2: The conceptualised model of the brainpower process of the research participants' journey in this study

To access Chinese talent from the knowledge diaspora as one of the compatible keys to unlocking China's brainpower, the Chinese government must understand that the talent may seek better career opportunities, financial gain, suitable working and living conditions, and flexibility. For example, to combat brain drain and reverse it, the government may aim to attract talent permanently (brain circulation) but will also consider temporary business visits or cross-border activities (as in the case of brain linkage) (see Shin & Moon, 2018).

In terms of most research participants and their flow, this study found that their preferred and optimal option is to incorporate what both home and host countries can offer them. As Chinese talent with experience in knowledge industries who can comfortably operate in both cultural and business settings, the research participants utilise business opportunities that China's economy and vast market provide them and the Australian favourable business environment that promotes work-life balance. Furthermore, through their entrepreneurial activities, both China and Australia benefit too. These factors are important when examining the brainpower processes in the context of Chinese Talent.

This study found that China's economic power, particularly its market that offers vast opportunities, is attractive for Chinese talent and is the number one driving pull factor for most of the research participants. This factor accompanies the research participants during their entire journey, from the day they leave China as international students to the day they return or consider returning as entrepreneurs. After establishing their business ventures in Australia, six research participants eventually moved to China permanently and continued their entrepreneurial activities in their home country. These participants received attractive financial investments for their business ventures from Mainland China. Similar to these research participants who permanently returned to China, others, as entrepreneurs and business owners, also weigh their future intentions and options on whether to return to China permanently based on their commercial needs. This identified key factor of this study that is similar to the findings from other research (such as Wadhwa et al., 2009, 2011) further highlights the importance of China's growing economy. It can offer commercial opportunities to overseas Chinese talent, indicating that this factor may remain important for many of them in the future. China's economic power is undeniably the most crucial and attractive home country's pull factor. This study also found that Chinese talent seek appropriate environments and conditions in their home or host countries.

Delayed Return

China's economy is rapidly changing and transforming. Despite a sceptical forecast of its economic slowdown, especially during the COVID-19 restrictions in the country, the Chinese economy has proven once again that it can still grow (Dezan Shira & Associates 2023). With growth, there is always hope for better changes and transformation, which may also lead to more returns of Chinese talent. Most research participants of this study who decided to remain in Australia have not excluded the idea of returning to China when they see fit, indicating that Pedersen's (1992) delayed return or 'wait and see attitude' among Chinese talent is still relevant today and can also be applied to the research participants of this study.

Reflecting on the papers and studies by Pedersen (1992), Deng (1992), and Zweig (1997), these scholars foresaw that more Chinese talent would eventually return as soon as economic conditions in China improved. In Deng's (1992) argument, improved economic conditions in China will attract more talent to return, thus reducing the issue of brain drain in the country and, instead, transforming it into brain circulation. Equally, Pedersen (1992) explained that changes in economic conditions in China will impact Chinese overseas talent's 'delayed return' and encourage many to return to their home country. Similarly, in his 1997 study, Zweig argued that even more Chinese may return if the economy grows. According to his study of students, scholars, and former residents of China in the United States, over 32 per cent of participants were enthusiastic about returning to their home country in the future (Zweig, 1997, pp. 92-125). Nearly over three decades have passed since Deng's paper (1992), Pedersen's article (1992), and Zweig's study (1997), and China's economy has grown considerably. Rapid economic growth has been a substantial pull factor for return among many overseas Chinese talent, including the research participants of this study. Recent studies found that many overseas Chinese talent are, in fact, returning to China.

The research participants who remain in the host country have business ventures that connect Australia with China and vice versa. Many of them have permanent residency in Australia and citizenship in China, indicating flexibility and options for choosing any of the countries depending on circumstances and when the time is right. These findings are similar to Saxenian's research (2000). Using the example of engineers, the author argued that those engineers became transnational as they worked and maintained residences and citizenship in more than one nation, for instance, in the host and home countries (Saxenian, 2000, pp.35-36).

A "wait and see" attitude is observed through research participants' entrepreneurial activities. For most of them, if China offers better commercial opportunities for their business ventures or if they wish to expand and enter the vast Chinese market, they will consider moving back to their home country. However, such consideration is mainly driven by commercial interests rather than personal ones. From their personal point of view, many of the research participants still see China as very competitive without the culture promoting work-life balance that is so important for many of them in their entrepreneurial endeavours.

Conclusion

To unlock this brainpower for efficient performance, the Chinese government must understand the talent and find ways to attract them, for instance, by creating suitable conditions. In the process of becoming the right key to China's brainpower, the research participants have undergone brainpower processes, such as brain drain, brain circulation, and

brain linkage, which are not constant and change depending on stages of the Chinese talent's journey and factors affecting their decision-making process and influencing this flow. While some research participants returned to China permanently, most of them remained in Australia but considered returning to their home country. Yet, they hold off until better opportunities or circumstances require them to return. Such better opportunities include commercial prospects for their business ventures and personal circumstances. Finally, this study argues that Chinese talent combine and integrate possibilities from both countries, utilising Australia's work-life balance and China's economy, which mutually benefit not only themselves but also both nations, thus making the brain linkage concept more prevalent when explaining the talent flow of the research participants of this study.

References

- Blanchford, D.R., & Zhang, B. (2014), Rethinking International Migration of Human Capital and Brain Circulation: The Case of Chinese-Canadian Academics. *Journal of Studies in International Education*, 18 (3), 202-222.
- Cao, C., Zhu, C., & Meng, Q. (2015). A survey of the influencing factors for international academic mobility of Chinese university students. *Higher Education Quarterly*, 70(2), 200–220. <https://doi.org/10.1111/hequ.12084>
- Cao, X. (1996). Debating ‘Brain drain’ in the context of globalisation. *Compare*, 26(3), 269–285. <https://doi.org/10.1080/0305792960260303>
- Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. SAGE Publications.
- Deng, Z. (1992). China’s brain drain problem: Causes, consequences and policy options. *The Journal of Contemporary China*, 1(1).
- Department of Education. (2023a). International students monthly summary and data tables. Australian Government. Available from: <https://www.education.gov.au/international-education-data-and-research/international-student-monthly-summary-and-data-tables>
- Department of Education. (2023b). Education export income, Calendar Year 2022. Australian Government. Available from: <https://www.education.gov.au/international-education-data-and-research/education-export-income-2021-calendar-year>
- Department of Foreign Affairs and Trade (DFAT). (n.d.). *Doing business with China*. Australian Government. Available from: <https://www.dfat.gov.au/trade/agreements/in-force/chafta/doing-business-with-china/Pages/doing-business-with-china>
- Dezan Shira & Associates. (2023). *An Introduction to Doing Business in China 2023*. Available from: <https://www.asiabriefing.com/store/book/introduction-doing-business-china-2023.html?autodownload>
- Han, D., & Zweig, D. (2010). Images of the world: Studying abroad and Chinese attitudes towards international affairs. *The China Quarterly*, 202, 290-306.
- Liu, T., Sato, Y., & Breaden, J. (2022). Factors influencing international students’ trajectories: A comparative study of Chinese students in Japan and Australia. *International Journal of Comparative Education and Development, ahead-of-print(ahead-of-print)*.
- Mazzarol, T., & Soutar, G. F. (2002). “Push-pull” factors influencing international student destination choice. *The International Journal of Educational Management*, 16(2).
- Ministry of Education of the People’s Republic of China. (2020). Statistics on Chinese learners studying overseas in 2019. Available from: http://en.moe.gov.cn/news/press_releases/202012/t20201224_507474.html

- Pathways to permanency*. (n.d.). Australian Bureau of Statistics. <https://www.abs.gov.au/articles/pathways-permanency>
- Pedersen, P. (1992). The New China Syndrome: Delayed return as a viable alternative to the “brain drain” perspective. *NAFSA Working Paper #30*.
- Saxenian, A. L. (2000). From brain drain to brain circulation: Transnational communities and regional upgrading in India and China.
- Saxenian, A. L. (2002). *Local and global networks of immigrant professionals in Silicon Valley*. Public Policy Institute of California.
- Saxenian, A. L. (2005). From brain drain to brain circulation: Transnational communities and regional upgrading in India and China. *Studies in Comparative International Development*, 40(2), 35-61.
- Saxenian, A. L. (2006). *The new argonauts: Regional advantage in a global economy*. Harvard University Press.
- Shin, G. W., & Choi, J. K. (2015). *Global talent: Skilled labor as social capital in Korea*. Stanford University Press.
- Shin, G. W., & Moon, R. J. (2018). From brain drain to brain circulation and linkage. *A Shorenstein Asia-Pacific Research Centre*. Stanford University.
- Simon, D. F., & Cao, C. (2009a). *China's emerging technological edge: Assessing the role of high-end talent*. Cambridge University Press.
- Simon, D. F., & Cao, C. (2009b). China's future: Have talent, will thrive. *Issues in Science and Technology*, 26(1). Available from: <https://issues.org/simon/>
- Su, M., & Harrison, L. M. (2016). Being wholesaled: An investigation of Chinese international students' higher education experiences. *Journal of International Students*, 6(4), 905-919.
- Tan, G., & Hugo, G. (2016). The transnational migration strategies of Chinese and Indian students in Australia. *Population, Space and Place*, 23, 1-15.
- Wadhwa, V., Saxenian, A. L., Gereffi, G., & Salkever, A. (2009). America's loss is the world's gain: America's new immigrant entrepreneurs, part IV. *The Ewing Marion Kauffman Foundation*.
- Wadhwa, V., Jain, S., Saxenian, A. L., Gereffi, G., & Wang, H. (2011). The grass is indeed greener in India and China for returnee entrepreneurs: America's new immigrant entrepreneurs, part VI. *The Ewing Marion Kauffman Foundation*.
- Welch, A. (2013). Different paths, one goal: Southeast Asia as knowledge society. *Asia Pacific Journal of Education*, 33(2), 197-211.

- Welch, A., & Hao, J. (2013). Returnees and diaspora as a source of innovation in Chinese higher education. *Frontiers of Education in China*, 8(2), 214-238.
- Yang, R., & Welch, A. R. (2010). Globalisation, transnational academic mobility and the Chinese knowledge diaspora: An Australian case study. *Discourse: Studies in the Cultural Politics of Education*, 31(5), 593-607.
- Yang, R. (2020). Benefits and challenges of the international mobility of researchers: The Chinese experience. *Globalisation, Societies and Education*, 18(1), 53-65.
- Zhai, K., Gao, X., & Wang, G. (2019). Factors for Chinese students choosing Australia higher education and motivation for returning: A systematic review. *SAGE Open*.
- Zweig, D. (1997). To return or not to return? Politics vs. economics in China's brain drain. *Studies in Comparative International Development*, 32(1), 93-125.
- Zweig, D. (2006). Competing for talent: China's strategies to reverse the brain drain. *International Labour Review*, 145(1-2).
- Zweig, D., & Wang, H. (2013). Can China bring back the best? The Communist Party organizes China's search for talent. *China Quarterly*. Available at SSRN: <https://ssrn.com/abstract=2195881> or <http://dx.doi.org/10.2139/ssrn.2195881>

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Navigating New Norms: A Two-Year Follow-Up on Japan's Digital Native Evolution

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Abstract

This study investigated changes in device and course modality preferences, technology-related stress, and data privacy knowledge among first-year undergraduate students at a private university in Western Japan from 2022 to 2024. Utilizing a questionnaire adapted from the 2022 Educause Student Technology Survey, data were collected from 109 students in 2022 and 45 students in 2024. Results indicated consistent primary device ownership, with laptops remaining the most common primary device (65% in 2022 and 63% in 2024). However, it was found that more students were increasingly adopting tablets (2% in 2022 and 4% in 2024). A significant reduction in stress related to running applications and device configuration was observed. Additionally, there was a notable decrease in the preference for blended learning (half online and half face-to-face), from 39% in 2022 to 24% in 2024. Regarding data privacy, the percentage of students who rated their familiarity as below average increased significantly from 9% in 2022 to 35% in 2024. Social media and teachers remained the primary sources of data privacy knowledge, though learning from news sources decreased significantly. These findings suggest a shift towards more face-to-face interactions post-pandemic and highlight the need for improved technological infrastructure and enhanced data privacy education. The insights gained are crucial for developing effective strategies to support students' technological and educational needs in a rapidly evolving digital landscape.

Keywords: Device Preferences, Course Modality, Higher Education, Technology Adoption, Technology Stress, Privacy

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Introduction

Japan, a global hub of technological innovation, has historically been perceived as lagging in the field of educational technology. The COVID-19 pandemic, which necessitated a swift transition to online distance education, brought this disparity to the forefront. Both teachers and students faced significant challenges in adapting to the new mode of delivery. However, the pandemic also served as a catalyst for digital transformation in Japanese educational institutions, which are often characterized by their slow pace of change.

While most classes have returned to face-to-face delivery post-pandemic, the technology adopted during this period continues to be utilized. This ongoing use of educational technology is evident to many long-term educators in Japanese higher education. Traditionally, Japanese students accessed the internet via mobile phones. However, there has been a noticeable increase in the use of laptops and tablets in classrooms. This shift suggests greater access to technology and a significant improvement in students' technological capabilities and confidence.

To examine these changes, a quantitative survey was administered to students at a Japanese university. The survey utilized a modified and translated version of the ECAR Student Technology Survey. This study aims to present the results of this survey, offering insights into how the technological landscape in Japanese higher education has evolved. This information is essential in understanding students' preferences and proficiency in using technology for educational purposes in Japanese universities.

Literature Review

Online and Blended Learning

Blended learning emerged as a compelling solution for the future of education (Ehrlich et al., 2020; Jones & Sharma, 2020). Heirdsfield et al. (2011) described blended learning as a strategy that combines online and face-to-face learning, creating an environment where students have enthusiasm for the educational process. Alducin-Ochoa and Vázquez-Martínez (2016) suggest that blended learning, with its emphasis on online learning outcomes, can enhance student engagement leading to improved performance.

The COVID-19 pandemic accelerated the adoption of online education, which created the need for teaching methods that could adapt to a rapidly evolving environment (Szopiński & Bachnik, 2022). As a result, researchers began urging educational institutions to embrace blended learning models (Finlay et al., 2022; Theoret & Ming, 2020).

The online component of blended learning is a convenience that has been a welcomed addition to a traditional learning environment. Baczek et al. (2021) conducted a study among Polish medical students, revealing that 69% of respondents highlighted the ability to stay home and continuous access to online materials as the primary advantages of online learning. Additionally, the flexibility to learn at one's own pace (64%) and the comfort of surroundings (54%) emerged as significant benefits. At the same time, 70% of subjects reported difficulties resulting from lost opportunities to interact with patients as a primary concern, suggesting careful implementation of online learning to ensure medical students can develop necessary clinical skills. A blended approach offers a happy medium between classes that are either fully online or face-to-face.

Expanding on the varied preferences for course modality, a survey of undergraduate students in Malaysia found that students preferred blended learning during the pandemic because students feel that it is safer and more flexible, while face-to-face was the mode of choice once COVID-19 was no longer a concern (Mali & Lim, 2021). Other studies also found students preferred face-to-face learning environments (Asih & Alief, 2022; Carrasco et al., 2022). Mali and Lim (2021) conclude that educators should consider incorporating social elements into blended learning to enhance the student experience.

Peimani and Kamalipour (2021) offered insights into the post-COVID-19 landscape, students' perspectives, and educational encounters in online learning. Although live online reading seminars allowed for interaction between students and tutors in small groups, they lacked effectiveness in fostering synchronous communication among a diverse student body. This highlights the difficulty online courses encounter in offering students the chance to interact with their peers and establish strong connections.

The challenges of online learning extend beyond reduced interaction. Access to stable internet and high-quality technological resources is critical for students to engage effectively in online courses (Peimani & Kamalipour, 2021). Elsaid et al. (2021) observed that students in Egypt faced significant technical problems, emphasizing the need for stable internet connections and well-equipped devices. Learners in rural areas, in particular, were affected by limited internet access and technical issues, which led to an inability to stay current with ongoing lessons (Mahyoob, 2020).

While the online aspect of blended learning has presented both advantages and disadvantages, discussions about the future of education post-pandemic are leaning towards advocating for blended learning (Fang et al., 2023; Sharma & Shree, 2023). This approach is seen as a flexible solution that addresses the challenges of online education by incorporating face-to-face interactions into the learning environment. For instance, Sharma and Shree (2023) explored the effects of various educational approaches—online, face-to-face, and blended—on higher education during the post-pandemic period. Their research revealed that facilitation, such as program organization, active engagement, and feedback, excelled in blended learning. Students expressed that navigating courses in a blended format was more manageable than in purely online or face-to-face settings, viewing blended education as a proficient platform for their learning endeavors.

The integration of online learning into university classrooms has shown considerable staying power post-pandemic. Official data from the National Center for Education Statistics (NCES) in the United States demonstrate the continuation of this trend through its Integrated Postsecondary Education Data System (IPEDS). According to NCES (2022), before the pandemic in Fall 2019, 35.9% of students in public postsecondary institutions were enrolled in distance education courses. This figure jumped to 77% in Fall 2020. By Fall 2022, the number of students taking distance education classes had dropped post-pandemic to 55.4% but remained significantly higher than the pre-pandemic levels of 2019.

Preferred Devices

The COVID-19 pandemic forced a rapid shift to online learning, making the choice of devices crucial for students' success. Interestingly, research suggests that device preferences varied across studies, indicating a complex landscape of individual needs and contextual factors influencing technology adoption in education.

Laptop computers were the most popular learning tools in South Korea (Shim & Lee, 2020), with 69.82% of students using them, followed by desktop computers (15.44%). Phones and iPads accounted for only 8.29% and 6.45% of usage, respectively. Shammari (2021) found similar results in Saudi Arabia, with 60% of participants preferring laptop computers for online learning, followed by tablets (21%), desktop computers (14%), and smartphones (4.7%).

Meanwhile, preferences for learning tools varied significantly in other countries. In India, Muthuprasad et al. (2020) found that undergraduate agriculture students preferred smartphones (57.98%) for their learning, followed by laptops (35.83%) and tablets (4.89%). Similarly, Edelhauser and Lupu-Dima (2020) found that students in Romania favored smartphones slightly more than laptops for online learning during the COVID-19 pandemic. Nepal et al. (2020) also found that most of the 226 Nepalese medical students surveyed used smartphones (69.5%) to attend classes during the lockdown period.

Information Security

Information security, an issue predating the COVID-19 pandemic, was brought to the forefront and continues today as more education has an online component. As a result, students, as well as university faculty and staff, have been tasked with maintaining personal information and data to a greater extent than in the past. Awareness of this issue can vary from person to person. An individual's realization of the importance of information security has been defined as information security awareness (Siponen, 2000).

Slusky and Partow-Navid (2012) surveyed students in the College of Business and Economics at California State University, Los Angeles. They found that information security awareness was present; however, the knowledge they did have needed to be more generalizable to real-world situations. Similarly, a more recent study of Chinese university students during the pandemic found that most of them understood the importance of information security (Wang, 2022). However, the authors did not find that the awareness they had led to competence in managing files and passwords. Furthermore, Avci and Oruc (2020) investigated Turkish university students, and while the majority demonstrated awareness of information security, some still had either very little or none at all.

Research Purpose and Questions

The purpose of this research was to examine how Japanese university students' usage of technology to learn transformed after the global pandemic. The following research questions were addressed in this study:

1. How have students' device and course modality preferences changed from 2022 to 2024?
2. What are the trends in technology-related stress among students between 2022 and 2024, and what factors contribute to this stress?
3. How has students' familiarity with and knowledge of data privacy evolved from 2022 to 2024, and what sources contribute to their understanding?

Methodology

Setting and Sample

The setting for this research was a private university in Western Japan, with approximately 32,000 undergraduate students attending across three campuses. All participants were first-year undergraduate students enrolled in required English as a Foreign Language (EFL) courses within the Economics or Information Science faculties. A total of 109 students participated in the study in 2022, while 45 students participated in 2024.

Participants

Participants were first-year undergraduate students at a private university. The 2022 cohort consisted of 109 students, and the 2024 cohort included 45 students. These students were chosen as they were all enrolled in mandatory EFL courses, ensuring a consistent sample regarding academic background and technological needs.

Instrument

Data was collected using a questionnaire administered through Google Forms and distributed via a link in the course's Learning Management System (LMS). The questionnaire assessed technology usage across three main themes: 1) Equitable Access, 2) The New Normal, and 3) Data and Privacy Security. The survey instrument was adapted from the 2022 Educause Student Survey and comprised 39 items and utilized various question types, including multiple-choice, Likert-scale, and open-ended questions. A skilled Japanese native researcher, fluent in Japanese and English, translated the survey items from English to Japanese. A second native Japanese speaker then reviewed the translation to ensure clarity and accessibility for all participants.

Data Collection and Analysis

Data collection occurred during the Fall semesters of 2022 and 2024. The Google Forms questionnaire was administered to students through the university's LMS. Both Japanese and English versions of the survey were provided, accompanied by a cover letter detailing the study and outlining participants' rights in both languages. The cover letter emphasized the voluntary nature of participation and assured students that their involvement would not affect course evaluations.

After data collection, the researchers transcribed the responses into an Excel spreadsheet for analysis. These spreadsheets were uploaded into ChatGPT 4o, where an initial analysis was conducted to identify major trends in the data. The data was then analyzed in Excel using frequencies, percentages, and descriptive statistics to examine all items comprehensively. Additionally, the data was compared between the 2022 and 2024 cohorts to identify trends and changes in technology usage, preferences, and challenges over the two years. This comparative analysis provided insights into the evolving landscape of educational technology and data privacy awareness among first-year undergraduate students at the university.

Results and Discussion

Primary Device Ownership

The study revealed consistent primary device ownership among first-year undergraduate students in 2022 and 2024. In 2022, all participants (100%) owned their primary device, which was predominantly a laptop (65.14%), followed by smartphones (30%), desktops (4%), and tablets (2%). In 2024, this trend continued with 100% ownership of primary devices, with laptops remaining the most common primary device (63%), followed by smartphones (30%), desktops (2%), and tablets (4%). These results align with previous research indicating the predominance of laptops for online courses in South Korea and Saudi Arabia (Shim & Lee, 2020; Shammari, 2021) while running contrary to findings from Indian (Muthuprasad et al., 2020) and Romanian (Edelhauser & Lupu-Dima, 2020) surveys which found students overwhelmingly preferred smartphones for their online studies. The regional differences in primary device ownership suggest varied preferences based on accessibility and specific educational needs.

The slight increase in tablet ownership is noteworthy and aligns with the growing availability of eBooks and digital resources optimized for tablet use.

Reasons for Using Secondary Devices

The primary reasons for using secondary devices remained consistent between 2022 and 2024. In 2022, the leading reasons were Wi-Fi issues (30.28%), multitasking or using multiple screens (28%), and features/functions not available on the primary device (18%). In 2024, Wi-Fi issues remained the top reason (30%), followed by multitasking (28%) and features/functions not available on the primary device (17%). The consistency in these reasons demonstrates the importance of reliable internet access and the need for multiple devices to support students' academic tasks.

Technology Issues Experienced

Students reported various technology issues, with notable changes between 2022 and 2024. In 2022, 52% of students experienced unstable internet connections without stress, while 16% found it stressful. By 2024, the percentage of students experiencing stress due to unstable internet connections had more than doubled to 39%. Conversely, the results of a chi-square test of independence showed a significant reduction in stress related to running applications and devices not being correctly configured in 2024 compared to 2022. The findings support the literature that encourages addressing technological challenges in order for students to be able to engage actively to promote effective online learning experiences (Elsaid et al., 2021; Mahyoob, 2020; Peimani & Kamalipour, 2021; Smyth et al., 2012). A blended approach breaks down when the online component fails to provide an educational environment that is accessible to all students with limited amounts of stress-inducing issues.

Technology Issue	2022: No Stress (%)	2022: With Stress (%)	2024: No Stress (%)	2024: With Stress (%)
Unstable internet connections	52	16	22	39
Device malfunction	22	12	17	0
Inability to run required software	24	9	17	0
Device not properly configured	28	12	67	0
Inability to access primary device	19	7	30	0
Device breakage	15	8	28	24

Table 1: Technology Issues Experienced and Associated Stress in 2022 and 2024.

Institutional and Self-Sourced Solutions

To address these technology issues, students utilized both institutional and self-sourced solutions. In 2024, students reported borrowing hotspots from their institutions, buying new digital devices, or upgrading their home internet services as standard solutions. This trend was consistent with 2022 findings, where similar strategies were employed to mitigate technology-related challenges.

Course Modality Preferences

The data reveals significant shifts in course modality preferences among first-year undergraduate students from 2022 to 2024. In 2022, a notable 39% of students preferred a half online and half face-to-face modality, while only 24% preferred this modality in 2024. A chi-square test of independence revealed that this change in preference was significant. Similarly, the preference for mostly face-to-face courses substantially increased from 20% in 2022 to 30% in 2024. Yet, the preference for completely face-to-face courses increased from 9% in 2022 to 17% in 2024. These changes indicate a growing inclination towards face-to-face interactions post-pandemic (see Figure 1). This study's results support previous research by Mali and Lim (2021), which found that students preferred face-to-face learning once COVID-19 was no longer an issue.

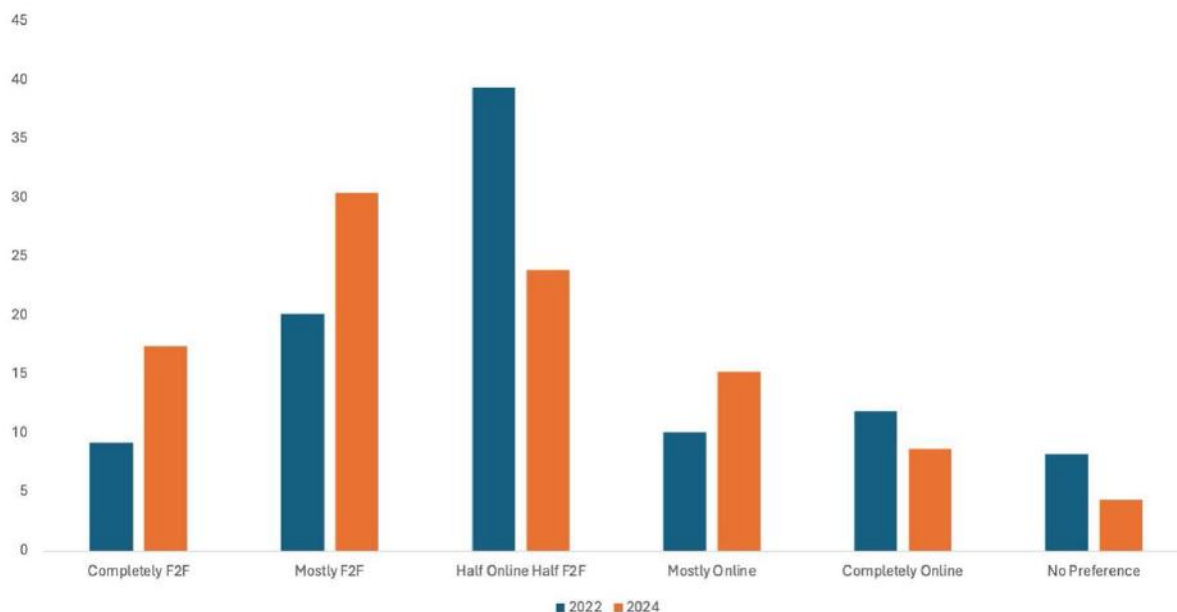


Figure 1: Course Modality Preferences in 2022 and 2024.

Meeting Classmates for Academic Work

Preferences for meeting classmates for academic work have also evolved. In 2022, 28% of students always preferred face-to-face meetings, which increased significantly to 46% in 2024. Similarly, the preference for mostly face-to-face meetings decreased from 43% in 2022 to 22% in 2024. The preference for a half face-to-face and half online modality remained stable from 2022 to 2024. These trends suggest a continued, and even increased, desire for in-person interactions for academic collaboration. These findings align with studies that suggested students wanted more social elements to be incorporated into blended learning (Asih & Alief, 2022; Carrasco et al., 2022). As a result, even though students continue to find a blended course modality preferable, they want the social aspects of face-to-face to have an increased role post-pandemic.

Familiarity With Data Privacy

The data from 2022 and 2024 indicate a shift in students' self-assessed familiarity with data privacy. In 2022, 52% of participants rated their familiarity as average; in 2024, this percentage decreased to 41%. Conversely, the percentage of students rating their familiarity below average increased significantly from 9% in 2022 to 35% in 2024. Additionally, the proportion of students who did not know their familiarity level increased from 4% in 2022 to 7% in 2024. These findings suggest a decline in students' confidence in their data privacy knowledge over time (see Figure 2). Prior research has highlighted a similar pattern. Some students lack information security awareness whatsoever (Avci & Oruc, 2020), while others have an awareness that is not generalizable to the real world (Slusky & Partow-Navid, 2012; Wang, 2022).

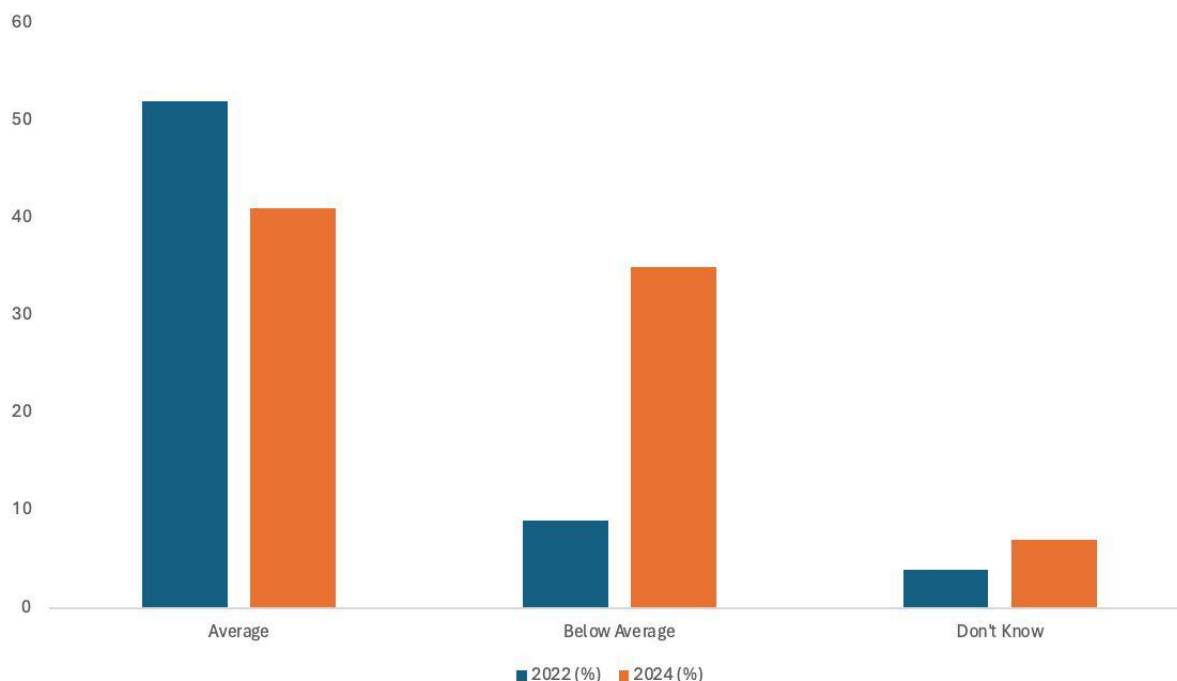


Figure 2: Familiarity with Data Privacy in 2022 and 2024.

Sources of Data Privacy Knowledge

In 2022 and 2024, students reported learning about data privacy from multiple sources. Social media remained the most common source, with 41% in 2022 and 41% in 2024. Teachers were also a significant source, with 39% in 2022 and 39% in 2024. Parents' influence slightly increased from 34% in 2022 to 37% in 2024. However, the percentage of students learning from news sources decreased significantly from 33% in 2022 to 17% in 2024. The percentage of students who reported not learning about data privacy decreased from 9% in 2022 to 4% in 2024, indicating increased engagement with data privacy education.

Sources of Data Privacy Knowledge

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Familiarity With the Institution's Data Privacy Policies

Students' familiarity with their institution's data privacy policies showed a notable decline between 2022 and 2024. In 2022, 52% of students rated their familiarity as average, while this dropped to 41% in 2024. The percentage of students who rated their familiarity as below average increased significantly from 9% in 2022 to 35% in 2024. Additionally, the proportion of students who did not know their familiarity level increased from 4% in 2022 to 7% in 2024. These trends suggest a growing need for institutions to enhance their communication and education regarding data privacy policies.

Conclusion

This study was an investigation into the changes in device and course modality preferences, technology-related stress, and data privacy knowledge among first-year undergraduate students at a private university in Western Japan from 2022 to 2024. The results demonstrated consistent primary device ownership, with laptops remaining the most common primary device. However, there was a noticeable increase in tablet ownership, reflecting the growing availability and use of digital resources optimized for tablet use, such as e-textbooks.

A significant reduction in stress related to running applications and device configuration was observed, suggesting improvements in technology or better student adaptation. Conversely, the increase in stress due to unstable internet connections demonstrates an ongoing need for reliable technological infrastructure. These findings align with existing literature emphasizing the importance of stable internet access and well-equipped devices for effective online learning.

The study also revealed a significant decrease in the preference for blended learning, with a notable shift towards face-to-face interactions. This finding contrasts with the researchers' prediction that students would continue to prefer blended and online learning. The literature supports this trend, highlighting students' desire for in-person interactions once pandemic restrictions were lifted.

Data privacy knowledge among students declined, with an increase in the percentage rating their familiarity as below average. This underscores the need for enhanced education on data privacy, a critical component of students' digital. The reliance on social media and teachers as primary sources of data privacy knowledge suggests that more formal educational interventions are necessary.

Despite the researchers' efforts, several limitations of the study must be acknowledged. The sample consisted of students from a single private university in Western Japan, which may not be representative of the broader population. The data were self-reported, introducing potential biases related to the participants' perceptions and the researchers' influence.

Future research should include a more diverse participant sample to comprehensively understand trends across different educational contexts. Additionally, employing a mixed methods approach could enrich the findings, offering a deeper insight into students' experiences and the factors influencing their technological and educational preferences.

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

AI and AI-assisted technologies were used to improve the language and readability of some sections of this article.

References

- Alducin-Ochoa, J. M. & Vázquez-Martínez, A. I. (2016). Hybrid learning: an effective resource in university education?. *International Education Studies*, 9(8), 1. <https://doi.org/10.5539/ies.v9n8p1>
- Asih, R. A. & Alief, L. (2022). Students' experiences and learning objectives: implications for future online learning. *Journal of Education and Learning (EduLearn)*, 16(2), 226-234. <https://doi.org/10.11591/edulearn.v16i2.20422>
- Avcı, Ü. & Oruç, O. (2020). Üniversite öğrencilerinin kişisel siber güvenlik davranışları ve bilgi güvenliği farkındalıklarının incelenmesi. *İnönü Üniversitesi Eğitim Fakültesi Dergisi*, 21(1), 284-303. <https://doi.org/10.17679/inuefd.526390>
- Bączek, M., Zagańczyk-Bączek, M., Szpringer, M., Jaroszyński, A., & Woźakowska-Kapłon, B. (2021). Students' perception of online learning during the COVID-19 pandemic. *Medicine*, 100(7), e24821. <https://doi.org/10.1097/md.00000000000024821>
- Carrasco, C. J. G., Lucena, F. J. H., Moreno-Vera, J. R., & García, S. A. (2022). Analysis of a forced blended-learning program in social sciences higher education during the COVID-19 post-pandemic. *Education + Training*, 65(2), 298-311. <https://doi.org/10.1108/et-06-2022-0246>
- Edelhauser, E. & Lupu-Dima, L. (2020). Is Romania prepared for e-learning during the COVID-19 pandemic? *Sustainability*, 12(13), 5438. <https://doi.org/10.3390/su12135438>
- Ehrlich, H., McKenney, M., & Elkbuli, A. (2020). We asked the experts: virtual learning in surgical education during the COVID-19 pandemic—shaping the future of surgical education and training. *World Journal of Surgery*, 44(7), 2053-2055. <https://doi.org/10.1007/s00268-020-05574-3>
- Elsaid, N., El Nagar, H., Kamal, D., Bayoumi, M., Kamel, M., Abuzeid, A., Elewa, S., Hussein, M., Hussein, H., Elshahidy, A., & Saleh, J. (2021). Perception of online learning among undergraduate students at Suez Canal Medical School during the COVID-19 pandemic: a cross-sectional study. *The Egyptian Journal of Hospital Medicine*, 85(1), 2870-2878. <https://doi.org/10.21608/ejhm.2021.190255>
- Fang, J., Pechenkina, E., & Rayner, G. (2023). Undergraduate business students' learning experiences during the COVID-19 pandemic: insights for remediation of future disruption. *The International Journal of Management Education*, 21(1), 100763. <https://doi.org/10.1016/j.ijme.2023.100763>
- Finlay, M. J., Tinnion, D., & Simpson, T. (2022). A virtual versus blended learning approach to higher education during the covid-19 pandemic: the experiences of a sport and exercise science student cohort. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 30, 100363. <https://doi.org/10.1016/j.jhlste.2021.100363>

- Heirdsfield, A. M., Walker, S., Tambyah, M., & Beutel, D. (2011). Blackboard as an online learning environment: what do teacher education students and staff think? *Australian Journal of Teacher Education*, 36(7). <https://doi.org/10.14221/ajte.2011v36n7.4>
- Jones, K. & Sharma, R. (2020). On reimagining a future for online learning in the post-COVID era. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3578310>
- Mahyoob, M. (2020). Challenges of e-learning during the COVID-19 pandemic experienced by EFL learners. *Arab World English Journal*, 11(4), 351-362. <https://doi.org/10.24093/awej/vol11no4.23>
- Mali, D. & Lim, H. (2021). How do students perceive face-to-face/blended learning as a result of the COVID-19 pandemic? *The International Journal of Management Education*, 19(3), 100552. <https://doi.org/10.1016/j.ijme.2021.100552>
- Muthuprasad, T., Aiswarya, S., Aditya, K., & Jha, G. K. (2021). Students' perception and preference for online education in India during COVID-19 pandemic. *Social Sciences & Humanities Open*, 3(1), 100101. <https://doi.org/10.1016/j.ssaho.2020.100101>
- Nepal, S., Atreya, A., Menezes, R. G., & Joshi, R. R. (2020). Students' perspective on online medical education amidst the COVID-19 pandemic in Nepal. *Journal of Nepal Health Research Council*, 18(3), 551-555. <https://doi.org/10.33314/jnhrc.v18i3.2851>
- Peimani, N. & Kamalipour, H. (2021). Online education in the post COVID-19 era: students' perception and learning experience. *Education Sciences*, 11(10), 633. <https://doi.org/10.3390/educsci11100633>
- Shammari, M. H. A. (2021). Devices and platforms used in emergency remote learning and teaching during COVID-19: a case of English major students in Saudi Arabia. *Arab World English Journal*, 1, 80-94. <https://doi.org/10.24093/awej/covid.6>
- Sharma, L. & Shree, S. (2023). Exploring the online and blended modes of learning for post-COVID-19: a study of higher education institutions. *Education Sciences*, 13(2), 142. <https://doi.org/10.3390/educsci13020142>
- Shim, T-E. and Lee, S. Y. (2020). College students' experience of emergency remote teaching due to COVID-19. *Children and Youth Services Review*, 119, 105578. <https://doi.org/10.1016/j.childyouth.2020.105578>
- Siponen, M. T. (2000). A conceptual foundation for organizational information security awareness. *Information Management & Computer Security*, 8(1), 31-41. <https://doi.org/10.1108/09685220010371394>
- Slusky, L. & Partow-Navid, P. (2012). Students information security practices and awareness. *Journal of Information Privacy and Security*, 8(4), 3-26. <https://doi.org/10.1080/15536548.2012.10845664>
- Szopiński, T. & Bachnik, K. (2022). Student evaluation of online learning during the COVID-19 pandemic. *Technological Forecasting and Social Change*, 174, 121203. <https://doi.org/10.1016/j.techfore.2021.121203>

Theoret, C. & Ming, X. (2020). Our education, our concerns: the impact on medical student education of COVID-19. *Medical Education*, 54(7), 591-592.
<https://doi.org/10.1111/medu.14181>

U.S. Department of Education, National Center for Education Statistics. (2022). 2012–22 [Data set]. IPEDS data collection system. Retrieved from:
<https://nces.ed.gov/ipeds/TrendGenerator/app/answer/2/42?f=1%3D4%7C1%3B2%3D1&rid=87>

Wang, X. (2022). Exploring Chinese college students' awareness of information security in the COVID-19 era. *European Journal of Education*, 5(2), 19-33.
<https://doi.org/10.2478/ejed-2022-0002>

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Understanding the Socio-Economic Dynamics of Rural Households: Challenges Faced in the Adoption of Climate-Smart Practices in India and Myanmar

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Abstract

Climate change poses a growing threat to Asia, particularly impacting agriculture and prompting the exploration of adaptation strategies at the household level within farming communities. This study aims to enhance our understanding of the socio-economic status of households and their adoption of climate-smart agricultural practices to cope with climate change in Myanmar and India. The Yamane sampling technique was employed to select one district and three villages from each country, with 130 households from each village interviewed using a pre-tested schedule. Data collection methods included household questionnaire surveys, focus group discussions, and key informant interviews. The study findings indicate that the average age of households in Myanmar is 55, compared to 47 in India. In India, 17.6% of household heads lack literacy, while in Myanmar, only 1.5% of household heads are illiterate in the study area. Among small and marginal farmers, 82.3% are men in Myanmar, with an average farming experience of 36 years, while in India, 53.4% are men, and the average farming experience is 28 years. Both groups of farmers primarily rely on rainfed agriculture. The study's results indicated that factors such as education, age, health, social participation, farming experience years, and family size exhibited positive and significant associations with socio-economic status. The study discovered that insufficient information and knowledge significantly hinder the promotion of climate-smart practices in both study areas. The need for Climate Smart Practices is crucial to address challenges and promote sustainable livelihood development in response to climate change impacts.

Keywords: Climate Change, Adaptation Strategies, Climate Smart Practices, Sustainable Livelihoods Development

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1. Introduction

Over the past forty years, there has been a substantial surge in agricultural production, with Asia playing a pivotal role as the driving force behind the sector's remarkable growth (ADB, 2023). The upsurge in agricultural output has not only bolstered the income of rural families, lifting millions out of poverty and alleviating hunger, but it has also contributed to the global effort to reduce food insecurity. Agriculture serves as a crucial source of livelihood for a significant portion of the rural population and given that nearly half of the Asian population resides in rural areas, its impact is substantial. Even though the agricultural sector's share of Asia's GDP has been steadily declining over time, it remains a vital pillar of the economy and employment, constituting 13.4% of GDP, 4.2% of total exports, and providing livelihoods for 570 million people.

Within Myanmar, the agricultural sector plays a significant role, contributing 58.5% to the country's GDP and employing a total of 59.1% of workers. Moreover, approximately 70% of people in remote region, predominantly involved in agricultural, livestock, and fishery activities as their primary means of livelihood (MOALI, 2021). Similarly, as verified by the Government of India (GoI, 2022), the agriculture sector contributes 18.3% to the nation's GDP, providing employment for a substantial 147.7 million in the labour force, according the Asian Development Bank (ADB, 2023). Additionally, as of 2021, 65% of the country's population resides in rural areas, and based on data from (To et al., 2023), 47 % of the population relies on agriculture for their livelihoods.

Prioritizing adaptation alongside global mitigation initiatives is crucial for combating climate change. Adaptation is a complex, multidimensional, and multi-level activity aimed at reducing societal susceptibility to environmental changes (Adger et al., 2007; Chambwera & Stage, 2010). The categorization of adaptation reactions is dependent on several aspects, such as the extent of their implementation, their purpose, the timing of the responses in relation to climatic stress, their duration, and their overall impact (Burton (Canada), B. Challenger (Antigua and Barbuda) & R.J.T. Klein (Germany/The Netherlands), 2018). The challenges posed by climate change and increasing food demand pose threats to overall global food security (IPCC, 2014). Farmers in impoverished nations, particularly smallholders, are highly susceptible to the effects of climate change. Despite being responsible for fulfilling 70% of the world's food requirements (Gitz et al., 2016), , these farmers are already grappling with the repercussions. Additionally, studies suggest that autonomous adaptation, while crucial, may not occur spontaneously; its realization is contingent upon the manner in which changes impact people's livelihoods (Rahman & Hickey, 2019).

Given that adaptation to the impacts of climate change is a primary focus on the development agenda in numerous developing nations, the implementation of genuinely practical measures in the field is of utmost importance. The Climate Smart Agriculture Strategy (MNREC, 2019) recently introduced in Myanmar underscores the significance of adaptive measures, encompassing crop types, agricultural techniques, risk management for disasters, and strategies for mitigating agricultural damage risks. Likewise, in 2011 the 'National Innovations in Climate Resilient Agriculture' (NICRA) network was launched by the Indian Council of Agricultural Research (ICAR), which functions under the Ministry of Agriculture and Farmers Welfare. NICRA is dedicated to the development of crop varieties that can withstand various climatic stresses, including floods, droughts, frost, inundation from cyclones, and heat waves (SAARC Agriculture Centre, Dhaka, 2019). Recognizing the efficiency and appropriateness of traditional knowledge, it is essential to consider locally

adapted practices as the foundational elements when formulating new strategies for climate change adaptation, ensuring practical applicability in the field (UNFCCC, 2013).

Smallholder farm families in developing nations need resilient livelihoods to combat climate change. This requires well-planned adaptations, environmentally friendly management practices such as water, land, fisheries, and forestry. Enhancing resilience is crucial, necessitating the escalation of adaptation measures, effective risk management, and sustainable diversification and intensification (FAO, 2022). Because smallholder agricultural systems and livelihoods are so diverse and complicated, it is difficult to quantify how climate change will affect them because it is closely linked to particular local conditions. (Belay et al., 2022) recommended that indigenous knowledge, mindsets, and traditional practices is necessary to improve the awareness of the effects of global warming at the farm level. At the local level, there is currently little documentation describing the precise adjustments being used and how they are put into reality. Hence, this study aims to i) to identify the socio-economic characteristics of smallholder farmers ii) to measure the constraints challenged by smallholder farmers.

Beyond offering recommendations for potential enhancements in the region, an examination of the status of small and marginal farmers can yield a thorough understanding of the current challenges within the agricultural system. This understanding is crucial for the formulation of climate-smart practices that effectively address the issues faced by farm households.

2. Literature Review

The investigation conducted by (Rishi et al., 2023) explored the socio-economic factors influencing farmers' adaptive capacity in response to climate change, Rajasthan, India. The data collected from 175 farmers from six selected village under Bundi district, Rajasthan. Mean and standard deviation, coefficient of correlation method of statistics was used for interpretation of data. Measurement mechanism followed for the independent variables for this study. The study found that factors such as education, climate information access, social participation, farm knowledge, extension connection, exposure to the media, non-farm income, operational land holding, irrigation area, and knowledge about climate change significantly influence farmers' adaptive capacity. (Nishanth et al., 2023) studied 180 Pattanam Sheep farmers in Tamil Nadu, revealing a strong interest in maintaining current practices despite natural disasters. The study suggests that farmers believe in the viability and profitability of Pattanam sheep farming.

(Bali, 2023) examined the limitations faced by women in farming, considering measures in both irrigated and unirrigated agriculture, the data obtained from 120 households from 12 villages in Jammu District. The data were analysed by the Garrette Ranking Techniques (GRT) and descriptive statistics. The findings indicate that the most significant challenges for women in farming within the study area were low prices for agricultural outputs and a lack of timely access to financing. The constraints that smallholder farmers in Gondar Zuria Woreda, Northwest Ethiopia, face in the chickpea production network were examined by (Asegie et al., 2022). The data obtained from 140 sampled respondents utilizing a basic random sampling method. The data were analysed by the GRT. The findings indicate that the primary obstacles impeding the production of chickpeas by smallholder farmers are the limited availability of seeds, their short supply, high input prices, scarcity of resources, disease, pests such as insects, and the inability to obtain in-kind financing.

Researchers (Dupdal & Patil, 2019) looked at the many challenges farmers in the northern region of Karnataka experienced as a result of climate unpredictability. A sample consisting of around 240 farmers was gathered to reflect the population under investigation. The study found that sample farmers in the region face significant constraints, including inadequate understanding of climate change and strategies for adaptation, poor availability of climate forecasts, and a shortage of agriculture of agriculture supply.

3. Research Methodology

The KYAUK-PA-TAUNG township Central Dry Zone (CDZ) region of Myanmar's BIN-GA, SIN-TA-KYIN, and KYAUK-TA-GAR villages were the study's locations (refer to Figure 1). Additionally, the study covered Farsali Pali, Farsali Wali, and Ason villages situated under the Bageshwar Township in Uttarakhand, a part of the Himalayan Mountainous Region in India (refer to Figure 2). There were 130 houses in each region, which corresponded to the CDZ, Myanmar, and the Uttarakhand District of India. The selected research fields in both nations share commonalities, particularly in experiencing regular and protracted droughts, as well as facing challenges related to inadequate and belated rains. Furthermore, the research regions' dominant livelihood activity was found to be agriculture.

The CDZ includes around 35 percent of the farmland in Myanmar, with an average yearly rainfall of 600 to 1400 millimeters. In study area, crop such as sesame, groundnut, sunflower, rice, millet, cotton, and tobacco are cultivated (DMO & FD, 2009). Uttarakhand constitutes about 11.68 % of Indian's cultivable land as reported by (ISFR, 2019). Dehradun is in Doon valley within the sub-Himalayan physiographic zone, has elevation of 640 m. The city has an average annual rainfall of 2091 mm along with an average maximum temperature of 31.6°C and lowest temperature of 10.7°C (ADB, 2021).

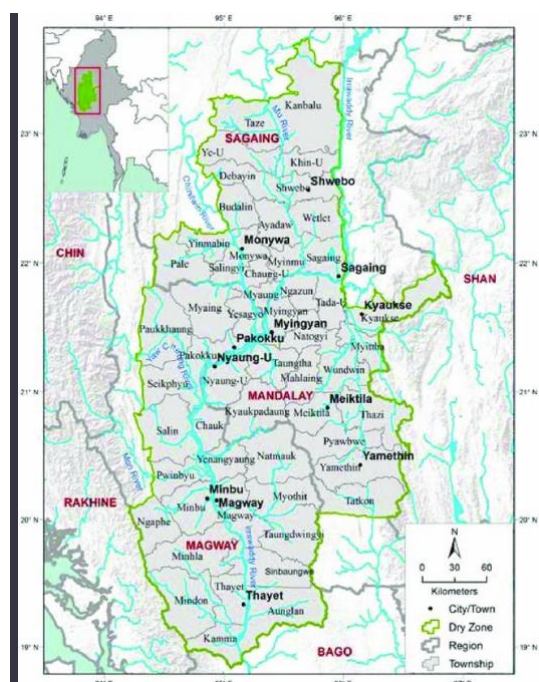


Figure (1) Location map of study area in Myanmar
Source; IWMI Report

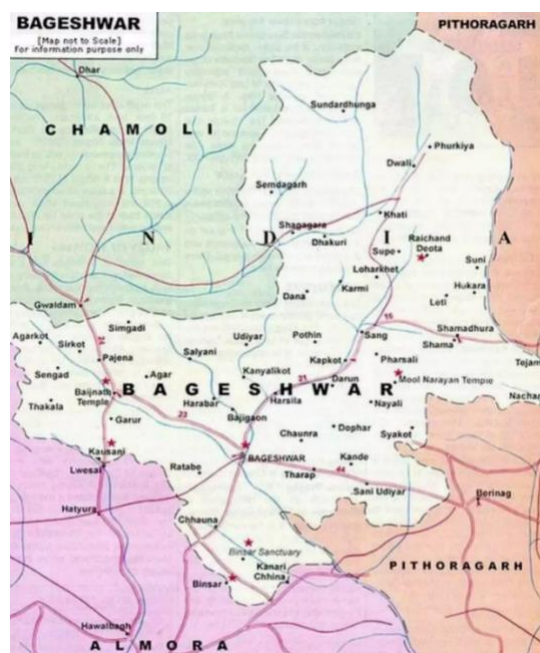


Figure (2) Location map of study area in India
Source; Uttarakhand tourist organization

3.1 Data Collection

This study used a combination of qualitative and quantitative methodologies, collecting primary and secondary data at both study sites using uniform data gathering techniques.

3.1.1 Data Collection- Primary

A Focus groups, a key informant interviews, and household questionnaire surveys were the main techniques for gathering data. At the household level, an organized questionnaire with both closed- and open-ended questions was employed. To ensure that the households in each area accurately represented the whole population, a minimum of 30% of the households were chosen using random selection. Thus, a total of 47 (36%), 44 (34%), and 39 (30%) households were selected from Palli, Walli , and Ason (in Bageshwar, Uttarakhand), Sin-Ta-Kyin, Bin-Ga, Kyauk-Ta-Ga (in CDZ, Myanmar) villages respectively. The questionnaire was used to conduct interviews with the heads of the sample houses. The purpose of the study was to learn more about farmers' views of climatic trends, their awareness of the causes and effects of climate change, and their methods for adaptation.

Focus groups were used to evaluate household questionnaire surveys and investigate, using checklist questions, farmers' perspectives on climate change and reactions to occurrences. It was conducted in villages through 5-10 participants aged above 60 to understand climate and cropping patterns. In order to gather information about climate-related events, farmers' responses, and the actions of the government and NGOs, interviews with key informants, farmers, NGO employees, and agricultural extension officers were done.

3.1.2 Data Collection – Secondary

Many published sources, including institutions, annual reports, and other relevant government documents, provided secondary data for the study.

3.2 Data Analysis

Both quantitative as well as qualitative techniques were used in the data analysis. Through the use of narration, justifications, and interpretation approaches, quantitative data were cross-verified with qualitative data collected from key informants and sampling households. A variety of basic descriptive statistical procedures were used to assess quantitative data, such as household characteristics, including means, percentages, a maximum, and minimum values. To address the primary focus of the study, Henry Garrett's Ranking System was used to identify the most important limitations and opportunities. Each respondent's ranks assigned to limitations were subsequently translated into score values using the described processes.

- Step 1: Individual respondents ranked determining constraints' ranks within each category. Subsequently, based on how serious they thought each restraint was, respondents ranked them all.
- Step 2: The calculation of respondents assigned to specific ranks for each constraint can be done using Microsoft Excel.

Step 3: Equation (1) presents the Henry Garrett formula for calculating the percent position as;

$$\text{Percent position} = \frac{100 * (R_{ji} - 0.5)}{N_j} \quad \text{Equation (1)}$$

where the total number of variable j^{th} respondent ranked is shown by N_j and R_{ji} is the rank that the j^{th} respondent provided for the i^{th} variable.

Step 4: Garrett Table (refer to table 1) is used to determine percentage position value, translating it into scores by multiplying the number of responders in a specific rank by the matching Garrett value.

Step 5: Add together scores from the previous fourth step to determine the total value for every limitation.

Step 6: Calculate the sum of the values by the entire amount of sampled households to get the averages.

Step 7: Arrange average values descending to determine constraint ranks, with higher values indicating more severe problems. As average values decrease, severity decreases. Similarly, opportunities rank respectively.

Table 1: Garrett’s Ranking Table

Percentage	Score	Percentage	Score	Percentage	Score
0.09	99	20.93	66	80.61	33
0.2	98	22.32	65	81.99	32
0.32	97	23.88	64	83.31	31
0.45	96	25.48	63	84.56	30
0.61	95	27.15	62	85.75	29
0.78	94	28.86	61	86.89	28
0.97	93	30.61	60	87.96	27
1.18	92	32.42	59	88.97	26
1.42	91	34.25	58	89.94	25
1.68	90	36.15	57	90.83	24
1.96	89	38.06	56	91.67	23
2.28	88	40.01	55	92.45	22
2.63	87	41.97	54	93.19	21
3.01	86	43.97	53	93.86	20
3.43	85	45.97	52	94.49	19
3.89	84	47.98	51	95.08	18
4.38	83	50	50	95.62	17
4.92	82	52.02	49	96.11	16
5.51	81	54.03	48	96.57	15
6.14	80	56.03	47	96.99	14
6.81	79	58.03	46	97.37	13
7.55	78	59.99	45	97.72	12
8.33	77	61.94	44	98.04	11
9.17	76	63.85	43	98.32	10
10.16	75	65.75	42	98.58	9
11.03	74	67.48	41	98.82	8
12.04	73	69.39	40	99.30	7
13.11	72	71.14	39	99.22	6
14.25	71	72.85	38	99.39	5
15.44	70	74.52	37	99.55	4
18.69	69	76.12	36	99.68	3
18.01	68	77.68	35	99.80	2
19.39	67	79.12	34	99.91	1
				100	0

SOURCE: Henry, E. Garret’s, Statistics in Psychology and Education, Feffer and Simans Private Limited, 1969, p.329

4. Results and Discussions

4.1 Sampled Respondent's Socioeconomic Characteristics in India

Table 2 displays the findings of the sample farmers' socioeconomic characteristics. The analysis of sample farmers' socioeconomic characteristics reveals that the medium age group (between 36 and 49) made up 47.7% of the questioned farmers, followed by the elderly age group category (40.0%) and the remaining young age groups (12.30%). The majority of farmers (36.20%) obtained a high school education, but only a very small percentage (17.70%) were able to graduate. The degree of education among farmers has a significant impact on the adoption and application of technology. The study found that the majority of farmers are marginal (93.1%) and small (6.9%) land holding category.

Table 2: The sampled respondent's socioeconomic characteristics in India

No	Variables	Group	Rate	Percentage
1.	Age	Young (below 35)	16	12.3
		Middle (36 ~ 49)	62	47.7
		Old (above 50)	52	40.0
2.	Sex	Male	71	54.6
		Female	59	45.4
3.	Education	Illiterate	23	17.7
		Primary	12	17.7
		Secondary	43	33.1
		Highschool	47	36.2
		Graduate	2	1.5
		Post graduate	3	2.3
4.	Farm experience	Low (up to 10 years)	16	12.3
		Middle (11 ~ 25 years)	54	41.5
		High (26 years above)	60	46.2
5.	Farm size	Marginal (1-9 Nali)	121	93.1
		Small (10- 29 Nali)	9	6.9
6.	Total family size	Small (1 to 3)	39	30.0
		Medium (4 to 6)	85	65.4
		Large (7 above)	6	4.6
7.	Water available everyday	Yes	130	100.0
		No	0	0.0
8.	Off-farm income	Yes	115	88.5
		No	15	11.5
9.	Participation on social	Yes	129	99.2
		No	1	0.8
10.	Health access	Yes	130	100.0
		No	0	0.0

Source; Author's field study (2023)

The majority of farmers (46.2%) have worked on farms for more than 25 years, and a higher percentage of farmers (99.20%) belong to social groups such as self-help organizations. Farmers' knowledge and awareness of current agricultural technology and projects can be improved by their increased interest in and participation in these social organizations. Over 88.5% of households with agricultural land work off the farm. Every household's access health care facility under government scheme. Table 2 makes it evident that the bulk of

agricultural households 65.4 percent belongs to medium family households (4 to 6 family members) while 30 percentage belong to small family households (1 to 3 family members) and 4.6 percentage belong to large family households (above 7 family members). The majority of households head are male with 54.6 percentage.

In summary, when examining the socio-economic features of the studied region in India, it becomes apparent that individuals in the middle age group play a predominant role in agricultural activities. This demographic factor facilitates a better understanding and implementation of climate adaptive strategies. Conversely, although many household heads possess education and ample farming experience, their farm sizes remain marginal. The majority of households are compelled to engage in off-farm income activities for their Survival. Although there is easy availability of water for domestic use and drinking, regarding agriculture, the same cannot be stated. This lack of water availability for farming hinders the ability of most households to develop commercial skills for their agricultural products. As a result, the agricultural potential of these households is constrained, limiting their capacity to pursue more lucrative avenues for their products.

4.2 Sampled Respondent's Socioeconomic Characteristics in Myanmar

According to the statistics in Table 3, the majority of farm families—64.6%—fall into the age category of those over 50. In contrast, 28.5 percent of farm households belong to the age range of those over 36 to 49, and just 9 percent are younger than 35. It is observed that elder age were more involved in agricultural activities. This is the challenging of agriculture sector in developing countries as young and middle age are migrate to other districts and neighbor countries. Notably, 0.8 percent of farm households were illiterate, whereas 40.8 percent was primary, 30.8 percent was secondary, 20.0 percent were high school, 5.4 percent were Bachelor Degree and 2.3 percent were Master Degree. The heads of rural households tended to be less educated. It might be because to the fact that young, educated person wouldn't enjoy farming activities, and to earn more income from not depending climatic business.

It was found that 73.1 percent of farm households had been farming for more than 25 years, 18.5 percent had been farming for 16 to 25 years, and just 8.5 percent of respondents had been farming for less than 10 years. Consequently, it was determined that most of the respondents were old, as I mentioned in farm households' farming experience. 49.2% of respondents owned 1.5 to 3 acre, followed by 38.5 % of respondents owned above 3 acre whereas 12.3 % of respondents owned 0 to 1acre. Therefore, study concluded that all respondents are small and marginal farmers. The respondents of family size were 49% with 4 to 6 family members, followed by 35.4 % with 1 to 3 family members, and only 17.7 % with above 7 family members. Most households head are male with 60.0 percentage. 61.5% of respondents accessed water everyday whereas 38.5 % of respondents did not access water every day. Similarly, 72.3 % of respondents accessed health facilities whereas 27.7 % of respondents did not access health facilities. 4.6 % of respondents were doing off-farm income sources whereas 95.4 % respondents were doing agriculture activities. 58.5 % respondents were participating in social networks whereas 41.5 % of respondents were not participating in social networks.

Hence, an analysis of the socio-economic characteristics of the examined region in Myanmar reveals that individuals in the elderly age group significantly contribute to agricultural activities. Concurrently, a considerable portion of the respondents exhibit a low educational status. Consequently, introducing climate adaptation strategies to these respondents might

pose challenges due to the fixed mindset associated with their age and education level. Nevertheless, their extensive farming experience proves valuable, demonstrating an in-depth understanding of agricultural responses to the effects of climate change. Socio-economic barriers faced by the respondents also encompass issues related to water access, participation in social activities, and health concerns. Addressing these multifaceted challenges requires a nuanced approach that considers the interplay of age, education, and other socio-economic factors.

Table 3: Sampled respondent's socioeconomic characteristics in Myanmar

No	Variables	Group	Rate	Percentage
1.	Age	Young (below 35)	9	6.9
		Middle (36 ~ 49)	37	28.5
		Old (above 50)	84	64.6
2.	Sex	Male	78	60.0
		Female	52	40.0
3.	Education	Illiterate	1	0.8
		Primary	53	40.8
		Secondary	40	30.8
		Highschool	26	20.0
		Graduate	7	5.4
		Post graduate	3	2.3
4.	Farm experience	up to 10 years	11	8.5
		16 to 25 years	24	18.5
		Above 26 years	95	73.1
5.	Farm size	Marginal (0~1 acre)	16	12.3
		Small (1.5 ~3 acre)	64	49.2
		Large (3.5 ~ above)	50	38.5
6.	Total family size	Small (1 to 3)	46	35.4
		Medium (4 to 6)	61	46.9
		Large (7 above)	23	17.7
7.	Water available everyday	Yes	80	61.5
		No	50	38.5
8.	Off-farm income	Yes	6	4.6
		No	124	95.4
9.	Participation on social	Yes	76	58.5
		No	54	41.5
10.	Health access	Yes	94	72.3
		No	36	27.7

Source; Author's field study (2023)

4.3 Barriers for Adoption Climate Smart Practices in India and Myanmar

The study's findings demonstrate that Bageshwar's smallholder farmers have difficulties in adjusting to the phenomena of climate change and fluctuation. The farmers' adaption measures were ranked according to their barriers using Garrett's Ranking Technique (Table 4).

Table 4: Calculated Garette Value for Barriers of adaptative measure among sampled households

Factor	Score of Rank									Overall Value	Average Value	Rank
	I	II	III	IV	V	VI	VII	VIII	IX			
Bageshwar township in India N=130												
*F1	0	0	1054	672	0	0	836	930	931	4423	491.4	8
*F2	0	0	0	0	600	308	1748	1085	570	4311	479	9
*F3	9396	966	0	0	0	0	0	0	0	10362	1151.3	1
*F4	1134	7866	62	56	0	0	0	0	0	9118	1013.1	2
*F5	0	69	2914	3248	1200	0	0	0	0	7431	825.7	3
*F6	0	0	434	1008	3200	220	684	186	228	5960	662.2	5
*F7	0	69	1860	0	950	2288	912	124	0	6203	689.2	4
*F8	0	0	1736	1008	0	2068	456	558	133	5959	662.1	6
*F9	0	0	0	1288	550	836	304	1147	608	4733	525.9	7
Kyaukpadaung township in Myanmar N=130												
**F1	1377	69	0	0	0	2024	418	1674	19	5581	620.11	6
**F2	3726	4347	124	0	100	88	228	248	19	8880	986.67	2
**F3	0	0	0	168	3000	528	152	558	627	5033	559.22	9
**F4	0	0	372	56	1000	2508	1748	62	152	5898	655.33	5
**F5	0	0	2728	1848	150	132	38	992	266	6154	683.78	4
**F6	243	69	4402	2352	350	44	76	93	0	7629	847.67	3
**F7	5103	4071	62	56	0	0	228	0	0	9520	1057.78	1
**F8	0	414	372	112	2300	352	418	310	779	5057	561.89	8
**F9	81	0	0	2688	100	44	1634	93	608	5248	583.11	7

Source; Author's field study (2023)

F1= Lack of information about landslide and related climatic issues, F2= Lack of appropriate crop variety, **F3*= Lack of information concerning appropriate climate smart practices**, F4*= Lack of credit access, F5*= Lack of suitable land for cultivation, F6*= Lack of irrigation for cultivation, F7*= Lack of storage facilities, F8*= Lack of marketing facilities, F9*= Transportation access

F1= Inadequacy research and development on climate smart practices, ** F2= Lack of extension service, **F3= Weak policies, **F4= Lack of infrastructure, ** F5= Lack of access to credit access, **F6= Lack of irrigation for cultivation, **F7= Limited knowledge**, **F8= Lack of marketing facilities, **F9= Lack of storage facilities

Nine adaptive strategies (factors) were assessed, with the highest total value of 10,362 attributed to the lack of information, particularly regarding suitable climate-smart practices in India. In Myanmar, with the highest total value of 1057.78 attributed to the limited knowledge on climate-smart practices. According to Table 4, this became the main adaptation method smallholder farmers used to deal with climate change and variability. Following the deficiency in information, challenges related to access to credit, storage facilities, and irrigation for cultivation were identified as the next three significant constraints in Bageshwar. Following the lack of extension service, and lack of irrigation for cultivation were identified as the next two significant barriers in Myanmar (Table 3).

The sample respondents also proposed other noteworthy suggestions to alleviate constraints. These included addressing issues such as a lack of marketing facilities, limited transportation access, insufficient information about climatic conditions, and a dearth of appropriate crop varieties. In conclusion, the primary challenge to sample farmers in the research regions adopting climate-smart practices is the exchange of knowledge and information.

Hence, it is imperative for the government, local authorities, and the relevant governmental body, such as the Ministry of Agriculture, to disseminate knowledge to farmers. Concurrently, academic institutions should intensify research efforts focused on addressing socio-economic challenges induced by climate change in remote areas. The dissemination of

information and knowledge can be facilitated through television and radio broadcasts. Furthermore, the government should implement a "train the trainer" program, establish demonstration farms showcasing Climate Smart Practices (CSP), and encourage the establishment of farmers' associations in each village or township. Additionally, the government must provide extension services aimed at enhancing income generation, particularly in the realm of livestock farming.

4.4 Socio-Economic Constraints in Agriculture

The key informant interviews revealed that farmers in both study areas find input costs to be a significant challenge due to unexpected price fluctuations. In Myanmar and India, obstacles to farming improvement include a lack of technical knowledge, absence of a suitable market, and insufficient capital for investing in necessary infrastructure. Despite financial assistance provided to cultivable landholding farmer families in India, many still grapple with financial issues in their farming endeavors. In response to these challenges, farmers in Myanmar have the option to access a government-sponsored loan program, with the requirement to repay within one year. Meanwhile, farmers face a serious issue of wildlife, such as monkeys and pigs, attacking their crops in Bageshwar. This has led to a reluctance to engage in cash crop cultivation. Additionally, delayed information about weather conditions in Bageshwar poses a barrier, as farmers need timely updates to plan and optimize their seed-saving practices for the next growing season. Furthermore, both study sites highlighted common issues, including seed quality concerns, pest and disease problems affecting crop yield. The pressing challenge of attracting youth to agriculture was emphasized, given the aging demographic of farmers and the inadequate support for intergenerational transitions in the land tenure system in Myanmar.

Myanmar's poor research dissemination is attributed to ineffective agricultural extension approaches and inadequate connections between government agencies, farmers, and academic institutions. Currently, there is no specialized weather forecasting channel tailored for agriculture, and farmers are voicing the demand for the establishment of such a system. Limited knowledge about climate change impacts and adaptation measures is a significant reason for farmers not adopting strategies.

Therefore, implementing region-specific adaptation technologies and enhancing agricultural extension services is crucial for successful climate change adaptation, requiring enhanced effectiveness of institutions and their extension services.

5. Conclusion

The study's results indicated that factors such as education, age, health, social participation, farming experience years, and family size exhibited positive and significant associations with socio-economic status. Conversely, a notable negative and significant association was observed between the lack of information and knowledge and the barriers hindering the CSP adoption in both study areas. CSP has proven successful among farming communities as effective responses to counteract the global warming's effect removing barriers to the implementation of adaptive techniques in agriculture is crucial for promoting widespread engagement in climate-adaptive practices.

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References

- ADB. (2021). *Climate Risk Assessment India : Uttarakhand Integrated and Resilient Urban Development Project*. October.
- ADB. (2023). Opportunities and Challenges during Low-Carbon Transition: A Perspective from Asia's Agriculture Sector. *Asian Development Outlook Thematic Report 2023*. <https://www.adb.org/sites/default/files/institutional-document/874256/adotr2023bp-low-carbon-asia-agriculture.pdf>
- Adger, N., Aggarwal, P., Agrawala, S., Alcamo, J., Allali, A., Anisimov, O., Arnell, N., Boko, M., Canziani, O., Carter, T., Casassa, G., Confalonieri, U., Cruz, R. V., Alcaraz, E. D. A., Easterling, W., Field, C., Fischlin, A., Fitzharris, B., García, C. G., ... Vaughan, D. (2007). Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change Summary for Policymakers Drafting Authors. *Assessment*, 37(April 2007), 7–22. <https://doi.org/10.2134/jeq2008.0015br>
- Asegie, A. M., Giziew, A., & Ayalew, D. (2022). Analyzing constraints of smallholders' chickpea (*Cicer arietinum* L.) production systems in Gondar Zuria Woreda of Ethiopia using the Henry Garrett's ranking technique. *Heliyon*, 8(10). <https://doi.org/10.1016/j.heliyon.2022.e11126>
- Bali, D. (2023). socio-economic status of Farm Women and constraints Encountered by Them in Agriculture and Allied systems in Jammu District. *Agro-Economist*, 9(4). <https://doi.org/10.30954/2394-8159.04.2022.13>
- Belay, A., Oludhe, C., Mirzabaev, A., Recha, J. W., Berhane, Z., Osano, P. M., Demissie, T., Olaka, L. A., & Solomon, D. (2022). Knowledge of climate change and adaptation by smallholder farmers: evidence from southern Ethiopia. *Heliyon*, 8(12), e12089. <https://doi.org/10.1016/j.heliyon.2022.e12089>
- Burton (Canada), B. Challenger (Antigua and Barbuda), S. H. (Bangladesh), & R.J.T. Klein (Germany/The Netherlands), G. Y. (USA). (2018). Adaptation to Climate Change in the Context of Sustainable Development and Equity. *Journal of Hepatology*, 6(2), 167–174. [https://doi.org/10.1016/S0168-8278\(88\)80028-X](https://doi.org/10.1016/S0168-8278(88)80028-X)
- Chambwera, M., & Stage, J. (2010). Climate change adaptation in developing countries : issues and perspectives for economic analysis. In *Structure* (Vol. 92, Issue May). <http://www.iied.org/pubs/pdfs/15517IIED.pdf>
- Dupdal, R., & Patil, B. L. (2019). Constraints Experienced and Suggestions by Farming Community in Adaptation to Climate Change in Karnataka: An Economic Analysis. *International Journal of Current Microbiology and Applied Sciences*, 8(02), 376–383. <https://doi.org/10.20546/ijcmas.2019.802.042>
- FAO. (2022). *strategy on climate change*.

- Gitz, V., Meybeck, A., Lipper, L., Young, C., & Braatz, S. (2016). Climate change and food security: Risks and responses. In *Food and Agriculture Organization of the United Nations*. <https://doi.org/10.1080/14767058.2017.1347921>
- GoI. (2022). *ANNUAL CONFERENCE Changes in Labour force and Employment in Rural and Urban*.
- IPCC. (2014). Summary for policy makers. *The European Nitrogen Assessment*, xxiv–xxxiv. <https://doi.org/10.1017/cbo9780511976988.002>
- ISFR. (2019). *Uttarakhand 11.29.1*. 284–293. <https://fsi.nic.in/isfr19/vol2/isfr-2019-vol-ii-uttarakhand.pdf>
- MNREC. (2019). *Myanmar climate change strategy (2018-2030)*.
- MOALI. (2021). *Brief.pdf*.
- Nishanth, A. A., Paramasivam, A., Jagatheesan, P. N. R., Ramachandran, M., & Henry, A. C. E. (2023). *Socio economic profile of Pattanam sheep farmers in the Cauvery delta zone of Tamil Nadu*. 12(4), 1911–1914.
- Rahman, H. M. T., & Hickey, G. M. (2019). What does autonomous adaptation to climate change have to teach public policy and planning about avoiding the risks of maladaptation in Bangladesh? *Frontiers in Environmental Science*, 7(JAN), 1–14. <https://doi.org/10.3389/fenvs.2019.00002>
- Rishi, S., Meena, K. C., Tanwar, N. K., & Kumari, K. (2023). *Socio-economic factors affecting the adaptive capacity of farmers towards climate change*. 12(10), 840–844.
- SAARC Agriculture Centre, Dhaka, B. (2019). *Climate Smart Agriculture Strategies to Respond Climate Change in South Asia*.
- To, A., Quality, I., Life, O. F., Rural, I. N., Equitable, F. O. R. M., Development, I., Created, A., Mgnregs, U., Productivity, I. A., Income, H., Migration, R., Rise, S., Rural, I. N., & Labour, F. (2023). *ECONOMIC SURVEY HIGHLIGHTS THRUST ON RURAL DEVELOPMENT AIMS TO IMPROVE QUALITY OF LIFE IN RURAL AREAS FOR MORE EQUITABLE AND INCLUSIVE DEVELOPMENT ASSETS CREATED UNDER MGNREGS POSITIVELY IMPACTING AGRICULTURAL PRODUCTIVITY AND HOUSEHOLD INCOME ; REDUCING* . 1–7.
- UNFCCC. (2013). *Best practices and available tools for the use of indigenous and traditional knowledge and practices for adaptation , and the application of gender-sensitive approaches and tools for understanding and assessing impacts , vulnerability and adaptation to cl*. October.

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***The COVID-19 Pandemic and British Exceptionalism:
Explaining Policy Failure***

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The COVID-19 pandemic elicited a policy response from the UK government that may be described as “British exceptionalism”. The concept of exceptionalism here denotes a pattern of government decision-making (and non-decision-making) that diminished the efficacy of NPIs that would suppress the virus. This was detrimental to the cause of public health protection, leading to thousands of unnecessary deaths. The chief aspects of British exceptionalism were: (1) eschewal of border defence; (2) deferred lockdowns and fast-tracked re-openings; and (3) failure to encourage or mandate public mask-wearing. The paper will argue that these were attributable to the interface between neoliberalism and Brexit nationalism in the politics of the ruling party and the high degree of internationalization of the UK economy.

Keywords: COVID-19, Public Health Policy, Neoliberalism, Brexit Nationalism

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Introduction

This paper presents the findings of a particular case of governmental crisis management in the context of public administration. This is crisis management of the COVID-19 pandemic. Research is informed by this author's own recent works of pandemic sociology: *The Pandemic in Britain* (2023) and *Modernity and the Pandemic* (2024). The focus here on the UK is owing to the outlier status of the UK government's response to COVID-19 when compared with those of most other countries. This is the meaning of British exceptionalism. The negative consequences of policy failure are outlined alongside an explanation of policy failure that constitutes British exceptionalism. The paper concludes that the UK experience demonstrates that the British version of neoliberalism which informed the UK government's COVID-19 policy is incompatible with the cause of public health under pandemic conditions. Other countries, notably those of Southeast Asia, delivered much better public health outcomes. This was owing to the stringency of their NPIs stemming from refusal to put profits before people.

Methodology

The data supporting measurement of comparative public health harms of the British pandemic was gathered on a daily basis throughout the crisis. This was gleaned from review of: (1) morbidity and mortality data from Public Health England (PHE), GOV.UK; and (2) international comparative data on relative and absolute levels of pandemic-generated mortality (derived from the Worldometer dashboard primarily).

The British Pandemic – In Numbers

By mid-July 2021, on the cusp of “Freedom Day”, the UK remained as it had from the beginning in the top quintile of countries for death rate per million of the population (19 out of 222), and in second place in Europe (behind Russia) on total number of deaths. The UK, with 0.87 percent of the world's population, recorded 4,096,239 cases of infection by mid-July 2021, almost three percent of the world's then total caseload of 177,327,697. Up to and including 15 July 2021, 128,609 people in Britain died from the virus, on the official counts. This was a death rate per million almost three-and-a-half times higher than the international average (Worldometer, 2021,15/07).

Nor has the UK's position at the wrong end of the COVID-19 league tables changed substantially since “Freedom Day”. Indeed, its relative position has worsened. In the UK, 232,312 people have been killed by the virus, up to and inclusive of 3 April this year. Only five other countries worldwide – all of them far more populous than the UK (the USA, Brazil, India, Russia, and Mexico) – have recorded a higher number of mortalities (Worldometer, 2024, 03/04).

Table 1: COVID-19 total deaths by country (3 April 2024)

	Country	Population	Mortalities
1	USA	334,805,269	1,218,843
2	Brazil	215,353,593	710,966
3	India	1,406,631,776	533,547
4	Russia	145,805,947	402,612
5	Mexico	131,562,772	334,958
6	UK	68,497,907	232,312
7	Peru	33,684,208	221,161
8	Italy	60,262,770	196,466
9	Germany	83,883,596	182,917
10	France	65,584,518	167,642

Among Europe's leading states, which are comparable to the UK in terms of per capita income and resources for healthcare, the UK now has the highest mortality rate from the virus relative to population size. This also makes the UK the second worst performer of the G20 under this metric. Of 231 countries and territories that have offered data on pandemic harms, the UK has the sixteenth highest mortality rate per head from COVID-19 in the world (Worldometer, 2024, 03/04).

Table 2: G20 COVID-19 mortalities per 1,000,000 population (3 April 2024)

	Country	Mortality rate
1	USA	3,640
2	UK	3,389
3	Brazil	3,301
4	Italy	3,260
5	Argentina	2,841
6	Russia	2,761
7	France	2,556
8	Mexico	2,546
9	Germany	2,181
10	South Africa	1,689
11	Canada	1,536
12	Turkey	1,194
13	Australia	934
14	South Korea	700
15	Japan	595
16	Indonesia	581
17	India	379
18	Saudi Arabia	269
19	China	4

British Exceptionalism and COVID-19

British exceptionalism refers to the peculiarity of the UK government's policy response (and non-response) to the pandemic that delivered these mortifying results. What are the key elements? I will address four.

1. *Deferred lockdowns*. This is deferral in the sense that lockdowns were enacted in response to crises that had escaped controllability rather than as a means of averting crises or preventing them from spilling out of control (Creaven, 2023, pp. 22-48, 114-18).

On 2 March 2020 SAGE recommended that the UK government implement stringent public health protection measures or else risk 80 percent of the population catching the disease and 250,000-500,000 people dying from it (Conn *et al.* 2020). Yet lockdown was delayed until 24 March. The first UK lockdown was brought in when caseloads were running at higher scales than in comparably highly populated countries in Europe (Worldometer, 2020, 14/04). [1]

2. *Fast-tracked easing of lockdown restrictions* (Creaven, 2023, 96-114). The unlocking of restrictions in the UK commenced when pandemic caseloads, hospitalizations and deaths were running at higher rates than comparable European countries. Italy's lockdown spanned 56 days. Spain's spanned 54 days. France's spanned 55 days (BBC News, 11/05). Germany's spanned 50 days (BBC News, 06/05). By contrast, the UK was already beginning to phase out its own lockdown after just 48 days. This was even though the UK was, by the end of the first wave's mid-May peak, the European leader for COVID-19 fatalities, and in fourth place internationally for total infection caseload (Creaven, 2023, pp. 101, 197). [2]

The UK government was also the first in Europe to declare the pandemic as finished as far as public health policy was concerned. The bulk of legally mandated NPIs all went together on 19 July 2021. This was on the grounds that the vaccination programme had decisively terminated the virus's capacity to harm those it infected. Yet, at this time, there were significant shortfalls in population vaccine coverage, including amongst vulnerable groups (Creaven, 2023, Ch.8). From 19 July 2021 to mid-June 2022 (when the bulk of research informing this paper was completed), 44,860 British lives were lost to the virus, on the official measure (Worldometer, 2022, 20/06). That is an average of 136 a day. This was under the government's "living with Covid" policy.

3. *Resistance to at-the-border control measures to reduce or restrict the import of COVID-19 cases*. The UK government refused to implement border/travel restrictions (or indeed basic temperature screening or testing, quarantining of inbound people with symptoms, even basic health and safety guidance) long after these had become the international norm.

An open borders policy remained in place not only in the runup to the British pandemic. This also persisted alongside the first nationwide lockdown and beyond, into the period where internal restrictions were being released. Border restrictions did not come into force until June 2020. From that point, the government opted for compulsory quarantining of all entrees. However, there were no special facilities (quarantine hotels) for entrees to be detained in, so that arrivals were simply entrusted to take care of that themselves. Nor was there any monitoring or tracking compliance with compulsory quarantining. So, for

these reasons, border defence in the UK remained weaker than internationally (Creaven, 2023, Ch.5). In the 11 days before the start of the first British lockdown on 24 March, up to 10,000 cases of COVID-19 were imported into the UK, carried by one million entrees (Creaven, 2023, p. 139).

4. *Mask-wearing scepticism*. What may be termed as “mask scepticism” was another striking feature of British exceptionalism (Creaven, 2023, Ch.7). This refers to official government views on wearing face coverings in public places as an aspect of anti-pandemic NPIs. British mask-scepticism at the level of government and government-approved science was indeed exceptional. This was outright mask deterrence for a significant part of the pandemic.

Throughout the first lockdown and much of the runup to it, the UK government insisted (contrary to evolving WHO guidance on the matter, and in sharp difference to pandemic control policy in most other countries) that there were negligible health-protection advantages in public mask-wearing (Gehrke and Furlong, 2020).[3] Indeed, the potential harmfulness of the practice was stressed (Creaven, 2023, 176-78).[4] The UK government did not mandate any public mask-wearing until 15 June 2020 – but this was only on public transport (Department of Transport, 2020). This was extended to include retail premises towards the end of July (BBC News, 2020, 14/07), and cinemas and theatres in August (BBC News, 2020, 31 July). [5] By contrast, mask-wearing was either legalized or strongly encouraged by governments right across the EU in the period from March to May 2020 (Creaven, 2023, p. 178).

The result of British mask scepticism was much lower rates of public mask-wearing in the UK than internationally. This was from February 2020 through to June 2022. Whereas mask-wearing was much lower in the North Atlantic region than in the Asia-Pacific region over this period, it was at its lowest in the UK and USA (Creaven, 2024, pp. 237, 239, 240-42). In March and April 2020, during the first wave, less than seven percent of the UK public self-reported wearing face coverings in public places. From May to July, as the first wave receded, this had risen to 36 percent on the monthly average (YouGov, 2022, 30/09). Self-reported public mask-wearing in the UK did not peak (at 77 percent of the adult population) until December 2021 (Creaven, 2024, p. 240), at which point the country was on the cusp of its third national lockdown.

5. By way of contrast, all southeast Asian countries except Singapore were self-reporting public mask-wearing ranging from 60-80 percent before the end of February 2020. This peaked at between 80-95 percent by mid-March of that year, where it remained for the rest of the year and for most of 2021 (Creaven, 2024, pp. 118-19, 224-24, 239-40). This is part of the explanation for why the Asia-Pacific region dramatically outperformed the North-Atlantic region over the course of the pandemic (Worldometer, 2024, 03/04).

Table 3: COVID-19 mortalities southeast Asia (3 April 2024)

	Country	Total mortalities	Mortality rate per 1 million
1.	China	5,272	4
2.	Laos	758	101
3.	Cambodia	3,056	178
5.	Singapore	2,024	341
6.	Vietnam	43,206	437
7.	Thailand	34,581	493
8.	Indonesia	162,063	581
9.	Philippines	66,864	594
10.	Japan	74,694	595
11.	South Korea	35,934	700
12.	Taiwan	19,005	796
13.	Malaysia	37,348	1,126

These are four key aspects of British exceptionalism. To be clear, the concept of British exceptionalism does not mean that the UK government's response has been unique among others in manifesting any one or more of these specific failings, or even all of them collectively. Rather, the exceptionality consists in the fact that this has manifested *each and every one* of the policy failings found elsewhere and on a bigger scale than in most other countries.

Explaining British Exceptionalism

An explanation of British exceptionalism will now be advanced. This is a pattern of policy responses to the pandemic that compromised public health owing to the overriding priority accorded to capitalist economics and free markets above all else. As such, British exceptionalism has been profoundly shaped by neoliberalism, which is the most doctrinaire expression of unfettered capitalism and absolute markets in politics and ideology.

Initial and then later resistance to lockdowns was animated by the imperative to keep Britain "open for business", even though business was closing elsewhere. Incautious de-escalation of lockdown restrictions was animated by the imperative to restore as quickly as possible Britain's "openness" for profit-making. Indeed, this was to ensure that British business was restored faster than anywhere else that matters, so that there was no comparative competitive disadvantage for home-grown or home-based capitals *vis-à-vis* those of competitor countries.

For exactly the same reasons, an aspect of Britain's "openness for business" was also maintaining borders that were open to anyone and everyone who would bring commerce to UK shores and who would convey it from those shores to elsewhere. What stands above all else in British exceptionalism, therefore, is the rejection of border-control policy. This more than anything else made the UK an outlier state in international relations in the pandemic world. A few more words on this is warranted.

Neoliberalism, the policy-framing ideology of international corporate capitalism, is noisily insistent that economic disaster and social malaise must befall any state that is protectionist. Borders, according to neoliberalism, must be porous in the economic sense, so that the flow of income-generating transfers (whether tourists, guest workers, students, capital, goods and

services, business practices, etc.) are unimpeded. Endorsement of these mantras of neoliberalism may explain the failure of the UK government to enact border defence.

This explanation is along the right lines. But it does not appear fully satisfactory. Neoliberal governance is an international phenomenon. Yet this did not stop most other countries from implementing at-the-border policies in an attempt to stop or slow the importation of COVID-19. The solution, I think, is to flesh out the above argument rather than jettison it. The decision of the UK government to reject pandemic border defence could be due to the particular status of British capitalism in world economy. There are three features worthy of note.

1. Britain's capitals are among the world leaders in export business (Clark 2021; Federal Ministry for Economic Affairs and Energy, 2019; Statista, 2020; Trading Economics, 2019; Walker (2018); World Integrated Trade Solution, 2020; Workman, 2020), just as the largest British MNCs are in the front rank for global reach under the "transnationality index" – more so than those of the EU and USA (Rugman and Verbeke (2003). Britain's economy is thus more export-oriented than the USA and those of the EU and its trade is more globally dispersed than is theirs.
2. The City of London is one of the world's biggest financial centres (vying with New York for first place), which is globally interlinked with all of the others (Financial Centre Futures, 2016; *Financial Times* (2020, 15/12). The interests of financial capital have also been especially prioritized by governments in the UK *vis-à-vis* industrial capital over a long period of time (Gamble, 1981), and these financial services make a larger contribution to GDP than do those in virtually all other countries (Hutton and Shalchi, 2020). [6] This is arguably to the detriment of the country's "real" manufacturing economy which has largely been subordinated (Gamble, 1981). Today the British manufacturing sector contributes only 17 percent to GDP (O'Neill, 2022).
3. The UK's tourist industry is among the world's biggest and most lucrative, and this also makes a significant contribution to GDP. Travel and tourism is an integral aspect of British capitalism, which is heavily rooted in services rather than industry, with services making up 73 percent of GDP (O'Neill, 2022). A fundamental aspect of the tourist industry is international tourism. The UK is among the world's top ten countries for international arrivals, in fourth place internationally for expenditure on international tourism, and in fifth place for countries which are the most lucrative tourist destinations (UNWO, 2020).

So, on the basis of a range of indicators, British capitalism is more internationalized than most. For this reason, British political elites especially identify "British" (national) interests as those which are synonymous with economic "globalization". That is, as those which lie in promoting world commerce and placing British capitalism at their centre. Seen in this context, the UK government's eschewal of border defence measures as a first line of defence against the pandemic becomes comprehensible.

Finally, as for mask-scepticism, this was a curiosity in that, unlike other aspects of exceptionalism, this hardly served the cause of unshackling capitalism from the constraints of physical distancing. However, mask-scepticism may be read as the expression of an economic liberalism and consumer libertarianism thwarted by physical distancing. This was perhaps a case of displacement.

This distils a general explanation of British exceptionalism. But there is, I think, more to be said about it. In two words, Brexit nationalism.

British exceptionalism was also made in the interface of neoliberal internationalization and Brexit nationalism that lies at the core of then UK government's political vision of the world. This is because those business interests to which public health needs were to be so disastrously subordinated were likely to have become especially prioritized by ministers due to the uncertainty of the post-Brexit economic situation. The UK had finally exited the EU at the close of 2019. But it had done so without having thrashed out a deal with Brussels that would allow for new trade relations that would cancel out the deficits of formally leaving the single European market. Moreover, it had done so without setting up alternative or additional trading deals with the other great trading states of North America and South Asia (Conn *et al.*, 2020).

Yet a dazzling future of boundless national cultural and economic renewal was promised to the Brexit-voting electorate. Given this context, it was probable that Johnson's government was eager to send a message out to the world that Britain was indeed fully "open" for global business, and that nothing, not even a global pandemic, would obstruct that purpose. This would certainly account for the UK government's delayed lockdowns and incautious unlockings. I contend that the interface of Brexit nationalism and neoliberal internationalism in the politics of the UK's ruling party is as at least a plausible explanation of the inadequacy of the UK's pandemic policies.

Conclusion

The lesson to be drawn from British exceptionalism is primarily that thoroughgoing neoliberal politics is incompatible with the cause of public health. This is because these will prioritize corporate profit-making over public health under conditions where both are faced with radical danger – such as that posed by a global pandemic. However, the strong pandemic performance of southeast Asian countries (owing to the stringency and proactiveness of their NPIs) provide a beacon for how the impacts of future pandemics may be far better managed.

Notes

- [1] On the eve of the UK lockdown, the daily new case rate was 12,568. This compared to 6,254 in France, 7,800 in Germany, 9,240 in Italy, and 9,250 in Spain, on the eve of their own national lockdowns.
- [2] A notable aspect of fast-tracked reopenings was Rishi Sunak's Eat Out to Help Out Scheme. This offered financial incentives for people to go to restaurants during a time when COVID-19 caseloads were building in the summer of 2020 (Creaven, 2023, 197).
- [3] As Professor Melinda Mills observed, following on from the WHO's declaration of a global pandemic in mid-March, 70 national governments immediately recommended mask wearing. By early July 2020, in more than 120 countries, mask-wearing was mandatory in all or most public settings (University of Oxford).
- [4] It seemingly did not occur to ministers that mask-wearing could actually reinforce the other NPIs rather than deter them (since the visibility of the mask symbolises viral threat)

or that people could be educated into correct mask use – despite the obvious plausibility of these scenarios. This is probably what happened in the better pandemic-performing countries of southeast Asia in particular. Here physical distancing (along with border controls, travel restrictions, robust quarantining, hand sanitization, and so on) co-existed with mask-wearing – and this and other NPIs were maintained at high levels.

- [5] Typically, there were illogical exemptions. Children under 11 years of age, for example, were not required to wear them. This was presumably based on the myth that children were less likely to either catch or transmit the virus than adults.
- [6] In 2020, the sector was the third largest in the OECD in terms of its contribution to GDP, earning the British economy £164.8 billion, or 8.6 percent of total GDP, with financial exports valued at £62 billion and with a trade surplus of £16 billion.

References

- BBC News* (2020). 'Coronavirus: Italy's PM outlines lockdown easing measures'. (27/04)
- BBC News* (2020). 'Coronavirus: Germany reopens shops as lockdown is relaxed'. (06/05)
- BBC News* (2020). 'Coronavirus: France eases lockdown after eight weeks'. (11/05)
- BBC News* (2020). 'Coronavirus: Face masks and coverings to be compulsory in England's shops'. (14/07)
- BBC News* (2020). 'Coronavirus: Boris Johnson postpones lockdown easing in England'. (31/07)
- Clark, D. (2021). *Brexit and EU trade - Statistics & Facts*. Statista (online). (28 April)
Available at: <https://www.statista.com/topics/3126/brexit-and-eu-trade/#:~:text=EU%20still%20dominates%20UK%20trade,53%20percent%20of%20its%20exports>
- Conn, D. *et al.* (2020). 'Revealed: the inside story of the UK's Covid-19 crisis'. *Guardian* (online). (29/04)
- Creaven, S. (2023). *The Pandemic in Britain: COVID-19, British Exceptionalism, and Neoliberalism*. London and New York: Routledge.
- Creaven, S. (2024). *Modernity and the Pandemic: Decivilization, Imperialism, and COVID-19*. London and New York: Routledge.
- Department for Transport (2020). *Face coverings to become mandatory on public transport*. GOV.UK (online). (4 June). Available at: <https://www.gov.uk/government/news/face-coverings-to-become-mandatory-on-public-transport>
- Federal Ministry for Economic Affairs and Energy (2019). *Facts about German foreign trade: Foreign Trade Figures in 2018*. Berlin: BMWi.
- Financial Centre Futures (2016). *The Global Financial Centres Index*. China Development Institute (CDI) and Yen (online). (February). Available at: <https://www.longfinance.net/publications/long-finance-reports/the-global-financial-centres-index-20/>
- Financial Times* (2020). 'How London grew into a financial powerhouse'. (15/12)
- Gamble, A. (1981). *Britain in Decline*. London: Macmillan.
- Gehrke, L. and Furlong, A. (2020). 'Timeline: How Europe embraced the coronavirus face mask'. *Politico*. (16/07)
- Hutton, G. and Shalchi, A. (2020). *Financial services: contribution to the UK economy*. London: House of Commons Library, p. 5.

- ITV News* (2020). 'Germans emerge from lockdown as strictest stay-at-home measures are eased'. (06/05)
- O'Neill, A. (2022). 'Distribution of GDP across economic sectors in the United Kingdom 2020'. *Statista* (online). (15 February). Available at: <https://www.statista.com/statistics/270372/distribution-of-gdp-across-economic-sectors-in-the-united-kingdom/#:~:text=In%202020%2C%20agriculture%20contributed%20around,percent%20from%20the%20services%20sector.&text=The%20vast%20majority%20of%20the,particular%20keeps%20the%20economy%20going>
- Rugman, A. and Verbeke, A. (2003). 'Regional Multinationals and Triad Strategy'. A. Rugman (Ed.) *Leadership in International Business Education and Research – Research in Global Strategic Management*, volume 8. Bingley: Emerald Group Publishing Limited, Bingley, 253-268.
- Statista (2020). *Exports of goods and services from the United States from 1990 to 2019, as a percentage of GDP*. Available at: <https://www.statista.com/statistics/258779/us-exports-as-a-percentage-of-gdp/>
- Trading Economics (2019). *Japan: Export of Goods and Services (% of GDP)*. World Bank Development Indicators. Available at: <https://tradingeconomics.com/japan/exports-of-goods-and-services-percent-of-gdp-wb-data.html>
- University of Oxford (2020). 'Oxford COVID-19 study: face masks and coverings work – act now'. News Release (8 July). Available at: <https://www.ox.ac.uk/news/2020-07-08-oxford-covid-19-study-face-masks-and-coverings-work-act-now>
- UNWO (2020). *UNWTO World Tourism Barometer and Statistical Annex, December 2020*] (December). Available at: <https://www.e-unwto.org/doi/abs/10.18111/wtobarometereng.2020.18.1.7>
- Walker, A. (2018). 'Does the EU need us more than we need them?' *BBC News*. (23/12)
- Workman, D. (2020). *France's Top Trading Partners*. World's Top Exporters (online). Available at: <https://www.worldstopexports.com/frances-top-import-partners/>
- World Integrated Trade Solution (2020). *United Kingdom trade statistics: Exports, Imports, Products, Tariffs, GDP and related Development Indicator*; World Bank (online). Available at: <https://wits.worldbank.org/CountryProfile/en/GBR>
- Worldometer (2020). *COVID-19 CORONAVIRUS PANDEMIC: Reported Cases and Deaths by Country or Territory*. Available at: <https://www.worldometers.info/coronavirus/#countries>. Accessed: 14/04/2020
- Worldometer (2021). *COVID-19 CORONAVIRUS PANDEMIC: Reported Cases and Deaths by Country or Territory*. Available at: <https://www.worldometers.info/coronavirus/#countries>. Accessed: 15/07/2021

Worldometer (2022). *COVID-19 CORONAVIRUS PANDEMIC: Reported Cases and Deaths by Country or Territory*. Worldometer (online). Available at: <https://www.worldometers.info/coronavirus/#countries>. Accessed: 20/06/2022

Worldometer (2024). *COVID-19 CORONAVIRUS PANDEMIC: Reported Cases and Deaths by Country or Territory*. Worldometer (online). Available at: <https://www.worldometers.info/coronavirus/#countries>. Accessed: 03/04/2024

YouGov (2022). *Personal measures taken to avoid COVID-19* (online). Accessed: 30/09/2022

*Performing Transnational Citizenship and Projecting Counter-Knowledge for
Decolonization*

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Abstract

Since the migratory movement of people has increased due to various disasters, both natural and man-made, it is increasingly important to pay attention to the complex identity (trans)formation of transnational citizens, which is not simply classified according to their nationality, birthplace, race, and ethnicity (Yuval-Davis et al., 2005). What stories are told by immigrants as transnational citizens whose identities are continuously shifting between the West/destination and the non-West/origin? This paper is based on interviews and participant observation conducted in Ottawa, Canada and elaborates on her/his-stories of those living in the Cambodian diaspora. What becomes clear from a discussion on their daily practices is how Cambodian residents in Canada negotiate their identities and perform their transnational citizenship; they are transnational citizens constantly transgressing national, cultural, and language borders. Applying the concept of “subaltern counterpublics” proposed by Fraser (1992), I suggest that such counterpublics form a new space that allows its inhabitants to go beyond the dichotomy of the West/destination and the non-West/origin. This study contributes to destabilizing the normative discourse sustaining essentialization and dichotomization and hindering diversity and inclusion.

Keywords: Cambodia, Canada, Citizenship, Diaspora

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Introduction

We are currently seeing and experiencing various borders emerging and merging through the transnational flows of merchandise and people under accelerated globalization. Focusing on the movement of people, those who suffer from political, economic, and social difficulties leave their home countries for new places. Both the United States of America and Canada played a key role in granting resettlement to those who arrived from Indochinese countries such as Vietnam, Cambodia, and Laos in the 1970s (Haines, 1989). The long years of conflict inside the country led to the occurrence of the Cambodian diaspora (Um, 2007).

This paper focuses on Cambodian people living in Canada. Multiculturalism is its key characteristic, as indicated by the Government of Canada (2024): “In 1988, Canada was the first country in the world to enshrine its multiculturalism policy in legislation ...” (para. 2). While diversity among the people is promoted, it is essential to be aware of the existence of the following two—the majority and the minority. According to the provided definition, a person “... who is non-white in colour/race, regardless of place of birth” is considered a “visible minority” (Government of Canada, 2016, para. 3). It continues and states:

The visible minority group includes: Black, Chinese, Filipino, Japanese, Korean, South Asian-East Indian (including Indian from India; Bangladeshi; Pakistani; East Indian from Guyana, Trinidad, East Africa; etc.), Southeast Asian (including Burmese; Cambodian; Laotian; Thai; Vietnamese; etc.) non-white West Asian, North African or Arab (including Egyptian; Libyan; Lebanese; etc.), non-white Latin American (including indigenous persons from Central and South America, etc.), person of mixed origin (with one parent in one of the visible minority groups listed above), other visible minority group. (Government of Canada, 2016, para. 3)

Bannerji (1995) pays attention to a dichotomy between the majority and the minority and points out its imbalance by exploring “[h]ow histories, cultures, ideologies of Europe constructed a ‘European = White self,’ in relation to whom the ‘others,’ now called ‘people of colour,’ ‘visible minorities,’ ‘immigrants,’ ‘third world people,’ are ‘different,’ ...” (p. 101). The dichotomy as such is a consequence of Orientalism, as Said (1978) points out:

For Orientalism was ultimately a political vision of reality whose structure promoted the difference between the familiar (Europe, the West, ‘us’) and the strange (the Orient, the East, ‘them’). This vision in a sense created and then served the two worlds thus conceived. Orientals lived in their world, ‘we’ lived in ours. (pp. 43-44)

In this way, Said reveals the mechanism of Orientalism creating inclusion and exclusion as well as (re)producing and preserving the dualistic structure of West/East, us/them, and insider/outsider.

The migratory movement of people has increased due to various disasters, both natural and man-made, so it is increasingly important to take account of the complex identity (trans)formation of transnational citizens, which is not simply classified according to their nationality, birthplace, race, and ethnicity (Yuval-Davis et al., 2005). What stories are told by immigrants as transnational citizens whose identities are continuously shifting between the West/destination and the non-West/origin? To examine the question, I apply the concept of “subaltern counterpublics” proposed by Fraser (1992). She indicates that the “subaltern counterpublics” are “... parallel discursive arenas where members of subordinated social

groups invent and circulate counterdiscourses to formulate oppositional interpretations of their identities, interests, and needs” (1992, p. 123). Hence, I consider that such counterpublics form a new space that allows its inhabitants to go beyond the binary of the West/destination and the non-West/origin, and those living in the Cambodian diaspora are situated in this new space.

Methodology

This paper draws upon my doctoral dissertation (Hara, 2012). A total of twenty-one people participated in this study, and I conducted interviews, ethnographic observation, and filming in Cambodia, Canada, and Japan. Here, I focus on three research participants: the Venerable Nanda, Aria, and Jadon living in Canada. The Venerable Nanda provides Buddhist services at a temple situated in Ottawa. He was born in Banteay Meanchey, Cambodia and is in his 30s. Aria and Jadon with Cambodian heritage are in their 20s. They reside in Ottawa and take an active part in teaching and performing Cambodian dance. Their activities include giving performances in events such as a large-scale festival of the Khmer New Year held annually in Ottawa and instructing students of the younger generation at a non-profit organization.

Name in Pseudonym	Occupation	Place of Residence
The Venerable Nanda	Buddhist monk	Ottawa, Canada
Aria	Cambodian dance performer/instructor	Ottawa, Canada
Jadon	Cambodian dance performer/instructor	Ottawa, Canada

Table 1: List of research participants.

In discussing their daily lives in Canada, the study participants point out some advantages of using digital technology. The first one is accessibility to information regarding the country of their residence. The Venerable Nanda mentions how he obtains information: “Mostly I check the Internet. I watch TV sometimes, maybe once a week. I sometimes get newspapers at a bus stop. And I read magazines sometimes, not regularly, once a month or twice a month.” Regarding the Internet, he remarks: “I often use Google. Google is easy to do search on.”

Jadon and Aria explain from which sources they get information of Canada, society, and culture(s) as follows:

Jadon: School, so a lot of books and stuff. ... It would be the TV, of course and books.

Aria: For the majority of our lives, it’s definitely to schools, to books. That’s how we learn most of everything we know but as the world became more digitized, more technology driven, Internet has come into play. Maybe it’s the majority form now for everything we know of.

Jadon: It’s an electronic version of books.

Aria: And it’s always available. We can always find again years from now, if you wanna look into something up to remember, five, ten years ago it’ll still be there. You’ll always find it.

Jadon: It’s a great library.

Thus, the research participants refer to not only the various media including books, newspapers, magazines, and television but also the Internet as an effective tool for searching and gaining the information they need.

The next advantage is that digital technology fosters communication across the national borders. The Venerable Nanda illustrates the usage of a digital camera in his daily life in Canada: “Mostly I like to take pictures of nature like the scenery, the forest, the riverside, and the green nature.” He then starts explaining how technologies are integrated in communication across the borders:

I send pictures to my friends in Cambodia sometimes. Especially in winter time when it snows, I take pictures of it and send and email them to my friends in Cambodia to tell them that here in Canada it's like this. (laugh)

In this way, his everyday practice entails a combination of the digital camera and the Internet as a way of communicating with those living in Cambodia.

Disseminating the Buddhist Teachings Across Both Physical and Cyberspace

The Venerable Nanda is engaged in offering Buddhist services to the Ottawa community. Daily services at the temple cover seven days a week and yearly services based on the lunar calendar include the Khmer New Year (a celebration held in April), *Bonn Phchum Ben* (a festival venerating the deceased such as the ancestors), *Bonn Visakha Puja* (a celebration worshiping Buddha and reminding oneself of the precepts), and so on. These events take place at the temple as well as an arena so that a large number of participants can be accommodated. The Venerable Nanda shows untiring zeal in the pursuit of his work:

I think what motivates us to provide Buddhist services for the Khmer community and also people who want to learn about Buddhism is that through our study of the Buddha's teachings, I think the Buddha's teachings has enough teaching, enough way to practice for peace and happiness in daily life. So if people understand and follow the Buddha's teachings, everything bad will not happen. The community will be peaceful, if people follow only the five precepts in Buddhism: no killing nor hurting each other; no stealing; no sexual misconduct; no telling a lie; and no drinking alcohol. These five precepts are enough to make the community to be a peaceful one, if people practice them. And these five rules are not impossible, if people learn to do them.

Grounded on the sense of mission illustrated above, the Venerable Nanda considers the diffusion of the Buddhist teachings in diverse spaces including cyberspace as important. Therefore, he takes the initiative in making full use of technologies on behalf of the missionary work:

Researcher (R): Who creates the website of the temple?

Ven. Nanda: It's me. I created and manage the website of the temple.

R: Why did you decide to open the website of the temple?

Ven. Nanda: The reason is because I think the website is a great way to convey, to spread the message of Buddhism and the activity of our organization to the world. Everywhere you can check, know it, and learn about it. I just updated the site last night.

R: Is the website bilingual—in English and Khmer?

Ven. Nanda: English and Khmer are mixed each other. Some sections are in English and some in Khmer.

R: You have added the Buddha's words and Khmer literature to the site.

Ven. Nanda: Yes. I have included the Buddha's words and Khmer literature on the website. And also, I have uploaded pictures and videos. Over here I placed links from other websites, useful websites so that people checking the site can access information easily.

R: How often do you update the website?

Ven. Nanda: I do not update the website often. Sometimes I leave it for about a few months. I update it every two or three months. But sometimes I do it every week just to check which link is broken and which is not.

In addition to the website created specifically for the temple, the Venerable Nanda currently takes charge of a Facebook page, a Twitter page, and his own blog supplying information of Buddhism as well as Cambodian culture(s) and also introducing poems by monks. Moreover, he produces videos capturing the events and makes them available on a YouTube channel he maintains. He describes the experience in filming and editing as follows:

R: Do you yourself do video recording or who does recording?

Ven. Nanda: When we celebrate ceremonies, we have someone who does video recording for us.

R: And who does editing?

Ven. Nanda: Most of them I edit. But one thing I cannot do is taking a picture because when the ceremony is in process, I have to sit. But sometimes when we have a chance, we take pictures. But when the ceremony is proceeding, we sit in front of all the people, so we cannot. (laugh)

R: Which editing software do you use?

Ven. Nanda: For editing, I use AVS Video Editor. But with Ustream, we can play it with Windows Media Video and QuickTime.

R: Do you enjoy editing films?

Ven. Nanda: Yes. I like editing films but it takes much time.

R: How many videos did you already edit and upload?

Ven. Nanda: I have just a few videos about ceremonies. And I uploaded some videos onto YouTube. But most videos on YouTube are available only in Khmer. It takes a lot of time to manage the website. The thing about the website is that it is only me maintaining and updating it. And there are some difficulties with the server. Sometimes it develops links in my website. I have to update them again and again.

Thus, while locating himself in Ottawa, his activity with digital technology is limitless.

Making the best use of the technological tools, social networking services in particular, the Venerable Nanda expresses his hope as follows:

R: So you intend to distribute the Buddhist teachings to not only Khmer people but also other people.

Ven. Nanda: We have to distribute the Buddha's teachings to people and we want to share our Khmer culture with the community and the Khmer generation who were born in Canada. When they want to know about the Khmer, they will know what Khmer has to do and what Khmer culture is.

In consequence of the devoted activities portrayed above, the broad and strong network is formed, and it renders services to the expansion of the temple, as the Venerable Nanda remarks:

R: How do you see the past, present and future in relation to the activities of your temple?

Ven. Nanda: ... We see the development of our organization. It's getting better and better. I think in the past it was good and now it's better. And I think it will be much better in the future. Our work has got support from people in the Cambodian communities—Cambodian people not only in Ottawa but some from Vancouver, too. Supports also come from Montréal, Toronto, Hamilton, and Sherbrooke—so many communities of Cambodia from everywhere. When they know we are new and want to build a temple, they support us.

Hence, it becomes obvious that inhabiting the “subaltern counterpublics,” the Venerable Nanda's practice with digital technology connects the physical space and the cyberspace beyond the borders and stimulates communication among those living in the Cambodian diaspora.

Teaching and Performing Cambodian Dance

Aria and Jadon are actively engaged in teaching and performing Cambodian dance in the Ottawa community. The two talk about how they came across Cambodian dance in their teens:

Jadon: We both started around 2000. My sister danced for Soma Selepak when she was ten or eleven, which was like fifteen years ago, a long time ago. She's been doing it and I always had an interest in it and dancing made me want to instruct, which made me want to learn even more.

Aria: Before I was in it, when I was a child, I used to see older generations do dances at Cambodian parties, and I always had an interest in it. When it came the opportunity, I learned about it and I joined myself. Something I always wanted to. And it felt good. After all, you know, the practices and the nerve-racking performances, after all of it I feel proud of it. It's probably the only part of me that really represents Cambodia, as I am very much a Canadian girl. (laugh)

Aria and Jadon then elucidate what made them determine to be instructors as follows:

Aria: ... We started teaching because people who used to teach us basically became too busy and retired themselves, so we didn't want it to end. So we took it in our hands. Jadon stepped at first and took care of it, and I came in and helped out.

Jadon: It was very hard jumping into the instruction side because what had happened is people from Cambodia had immigrated here; they came here and then, you know, it's a perfect way to learn traditional stuff from those who were there.

Aria: They are professional Cambodian dancers. They went to school of dance there. So we're getting it directly from professional dancers, which was a great opportunity first, so it was good but now we are at the point where we are not learning anything new; we have to refer to videos off of YouTube basically.

Jadon: Which is hard because again, every video comes with a slight alteration or slight editing.

Aria: Each performance is different in little ways.

Jadon: Which is great but it'd be also amazing for us to teach something that is authentic, something that has been passed down from family to family or from teachers to students. For us, we are more free-lancing it. Again, we were learning it in our own home and did the best as possibly as we could do with it, so it was definitely a huge challenge to step up and become an instructor.

In addition to the hard task involved in dance instruction as described above, Aria indicates some difficulties associated with acting as a teacher:

And it's definitely different as dancers because normally, when you are a dancer, your only real concern is just yourself making sure that you have your part done right and you trust that all your other counterparts are doing their parts as well. But as an instructor, we have to take care of everybody now. And it's definitely a really big challenge dealing with the people's abilities. Some are more skilled, others aren't, and learning to deal and work with everybody's differences is definitely a challenge. The time and effort is a very big challenge. Nonetheless, it's something, you know, we want to keep it going. That's why we took it and set it up. We went from just dancers to instructors.

Under the resolution to do their utmost as instructors, Aria and Jadon provide students with the opportunity to learn, practice, and perform various types of Cambodian dance:

R: How many dance styles do students learn every year?

Aria: There's classical.

Jadon: It's a ballet basically. It's a Cambodian ballet.

Aria: It's a very technical dance, slow motion. Every movement has a meaning. So that's more the classical side. And the clothing itself is just beautiful, lots of color, shine.

Jadon: It's very expensive and heavy. And it's very tedious to get on. It is about an hour process.

Aria: It's a long process to get dressed for performance of a classical dance. Then there's the folk dance, which usually represents, you know, different regions almost; there're like the mountainous people, there're the countryside people. There is a whole bunch of folk dance; it's more fast beat, higher tempos.

Jadon: They're more of fun, life-related types of dance. I find that there are two categories that we have—the classical dance that is performed more for royalties within the temples, within the Kingdom, and then you have the folk, which is more on the townspeople, people outside of that. So you have a great outlook of very high classical, traditional dance and you have the fun, laid-back lifestyle things.

Aria: I guess also the classical has more of a storytelling, historical type of meaning to it, whereas the folk dance is usually displaying things people just do, their lifestyle like the harvest thing showing how they harvest.

Jadon: With the folk dances, there is a lot of regular harvest type of dance but also there are a lot of flirting dances as well, whereas the guys are trying to get the girls, and the girls don't want them but the guys persuade the girls. So those are all little fun stuff that happens with it. ... I mean folk dance I find that it's basically taking anything that you have and turning it into a dance.

While teaching the diverse kinds of Cambodian dance with zeal, Jadon and Aria express a concern:

R: How many students are in one class?

Jadon: It ranges from year to year. It has been decreasing. People have been growing up, being busy with everything. So we are basically trying to focus on the younger generations, so we are talking about, you know, thirteen, fourteen, fifteen like early teens.

Aria: Early teens and we are trying to get the even younger generations in because like I said before, it's something I don't wanna see go away. I definitely want my kids to be a part of it, when I have kids. So in order to keep it going, we have to continue it because obviously, if you let it go, it's easily lost.

Jadon: Yeah, you destroy a part of yourself as well as where you come from.

Aria: ... I would say about five to six years ago, there were up to twenty to thirty, so it's like I said, the generations are getting older. They are away from early teens to teens to adults and they are losing interests. It's something that we don't want but it can't be helped all the times. It's not something we can force on anyone, either.

Nonetheless, the difficulties that have become apparent in the conversation do not daunt them. The strong will and passion spurs the two instructors on to an effort:

R: What messages do you want to convey through teaching Cambodian dance?

Jadon: For me, my main message is no matter the age remembering where you come from and remembering what you represent and your back history. I find that that's the best thing to do because you'll get respect from anyone, if you know where you came from. And I just want any generation and all generations to respect each other because they have at least one thing in common, which is, uh, traditional culture.

Aria: For me, basically the same thing. We are basically on the other side of the world from Cambodia where these dances are originated from, and being able to dance, being able to teach, showing we are your descendants, we are still very proud, I am very proud of our country still. I mean there are things that are sad about it but I think one of the things that I'm very proud of is teaching it. I'm gonna pass it down to someone. It'll keep going. We are here.

R: Is there any particular population or to whom are you addressing the message?

Jadon: It's mainly to everyone but the most important people we are trying to send our messages to will be ourselves and our family. I think that's more important for me. Do you agree?

Aria: Yeah, to our family and to our community. Not just Cambodian community but Ottawa community as well.

Jadon: Yes. It's true. I mean our families are our communities basically. We just want our community to grow stronger, to unite everyone together.

Aria: Basically, it's our contribution because I don't know much about other Cambodian dancers that we really know of that they can pass onto anyone else, so this is our form.

Jadon: I agree.

Jadon and Aria then elaborate on the significance of teaching and performing dance as a means to send the message illustrated above:

R: Why do you think the medium you chose, which is teaching and performing dance, is the best way to convey the message?

Jadon: Very good question. I think for us it's our best way to prevail the message because it's from a performer side of view, I think that people can talk about it, people can show you, people can also draw you in message. For myself and I'm sure Aria

agrees, we wanna do all of that but also we wanna perform it. Performing is one of the harder things to do but I find that for us it's the easiest way to send our message.

Aria: In the form of dance, like he said, you don't need words to express your feelings and to express the message you want to get out, you can see it in the motions and in the facial expressions.

Jadon: It's just for us a great creative way to express how we feel and also to tell the story as well.

Aria: Also, a really good way to challenge ourselves, you know, physically, mentally, and also building on our courage because definitely, I would say everyone individually is very shy but as a group, we perform together and we are different personality.

Jadon: I mean everybody can perform on stage. People can do jazz, people can do hip-hop, people can do whatever it is, acting. When doing Cambodian dancing, you don't need to be able to do any of that. It's just you on stage and expressing your feelings. So that's why it gets very nerve-racking on stage for us but when you throw us out there, we are fine. Most of us. Some of us. A couple of us. Just me. (laugh)

In this way, inhabiting the "subaltern counterpublics," the dance performers/instructors' practice shapes a new space detaching itself from the dichotomies of West/East, Canada/Cambodia, and insider/outsider and acknowledging the interplay of the diverse cultural components.

Conclusion

This paper has discussed the cases of the three study participants living in Canada. The Venerable Nanda's practice employing digital technology connects the physical space and the cyberspace beyond the borders and activates communication among those living in the Cambodian diaspora. Aria and Jadon's performing and teaching practice creates an interactive space where the performers/instructors and the audiences/students coming from diverse cultural backgrounds meet and communicate with one another. It has become clear from their stories that they are transnational citizens inhabiting the "subaltern counterpublics" and moving here and there, back and forth. Cambodia/Canada, the West/non-West, and the origin/destination are complicatedly interwoven and coexist beyond the dualistic structure in their daily lives. Their border-crossing movement suggests a new way of projecting counter-knowledge and destabilizing the normative discourse sustaining essentialization and dichotomization and hindering diversity and inclusion.

References

- Bannerji, H. (1995). *Thinking through: Essays on feminism, Marxism and anti-racism*. Toronto, Ontario: Women's Press.
- Fraser, N. (1992). Rethinking the public sphere: A contribution to the critique of actually existing democracy. In C. Calhoun (Ed.), *Habermas and the public sphere* (pp. 109-142). Cambridge, MA: MIT Press.
- Government of Canada. (2016). *Employment equity*. <https://www.canada.ca/en/public-service-commission/jobs/services/gc-jobs/employment-equity.html>
- Government of Canada. (2024). *About the Canadian Multiculturalism Act*. <https://www.canada.ca/en/canadian-heritage/services/about-multiculturalism-anti-racism/about-act.html>
- Haines, D. (1989). Southeast Asian refugee resettlement in the United States and Canada. *Amerasia*, 15(2), 141-156. <https://doi.org/10.17953/amer.15.2.4926622658464q80>
- Hara, H. (2012). *The art of becoming: Filmmaking and performance on Cambodian postcoloniality and diaspora*. Unpublished doctoral dissertation, University of British Columbia, Vancouver, Canada.
- Said, E. (1978). *Orientalism*. New York, NY: Vintage.
- Um, K. (2007). Political remittance: Cambodian diasporas in conflict and post conflict. In H. Smith & P. Stares (Eds.), *Diasporas in conflict: Peace-makers or peace-wreckers?* (pp. 253-279). New York, NY: United Nations University Press.
- Yuval-Davis, N., Anthias, F., & Kofman, E. (2005). Secure borders and safe haven and the gendered politics of belonging: Beyond social cohesion. *Ethnic and Racial Studies*, 28(3), 513-535. <https://doi.org/10.1080/0141987042000337867>

Characteristics of the Community in Implementing Development Programs in the Village of Kota Rintang, Deli Serdang, North Sumatra, Indonesia

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Abstract

This research aims to determine the characteristics of the community in implementing development programs in the village of Kota Rintang, Deli Serdang, North Sumatra, Indonesia. This research method was carried out using a quantitative approach, applying purposive and accidental sampling techniques. Data collection techniques through field research, using questionnaires, and literature study. The research population was the people of Kota Rintang Village, total 6,145 people. The sample consisted of 99 people determined using the Taro Yamane formula with a precision of 5% and a confidence level of 95%. Community characteristics are mapped based on gender, age, occupation and level of education. Male respondents said 38.6% 22 male respondents said village officials were able to deliver the village development program. Meanwhile, women constituted 69% of the 29 respondents. 67.9% people aged 39 - 45 years and 46 -52 years (55.9%) understood the village development program message delivered by village officials. The majority of community work is farmers (76.8%) of the 43 respondents who are often involved and voluntarily involve themselves in the implementation stages of village development programs. The highest level of education in the village community is junior high school with a total of 41 people (53.7%). The community assesses that village officials give priority to the Village development program. This research shows that the community assesses village officials as cooperative in providing services to the people of Kota Rintang Village, Hamparan Perak, Deli Serdang, Indonesia.

Keywords: Kota Rintang Village, Development Communication, Development Characteristics

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Introduction

Kota Rantang Village is one of the villages in Indonesia that is still relatively underdeveloped. This village is in Hamparan Perak District, Deli Serdang Regency, North Sumatra Province in Indonesia. The name of this village was formed because of the tradition of activities of residents who worked as farmers on the PTPN II plantation. In the past, before Indonesia's independence, this village was one of Deli's largest tobacco export areas to foreign countries. Rantang is the choice as a lunch box container so that we can share and have a sense of belonging like family. Farmers have a habit of carrying not in rice paper containers or other containers, but instead using RANTANG due to its practicality and large capacity (Hasibuan, 2021).

Development is a process that never stops to continue to bring about change in order to achieve mutual progress in life. These changes do not occur naturally or are given, but are a conscious and planned process. Development communication carried out will influence community participation in development. Participation involves more mentally and emotionally than physically a person, sympathy and concern are expected to have more of an impact than physical ones. This kind of participation is known as “voluntary” participation. (Deviyanti, 2013).

Most of the people in this village work in the agricultural sector, namely as farmers. Arma, et al, (2020:82) added that other jobs are as farm workers, migrant workers, livestock breeders and civil servants. Rantang City has seven hamlets, each of which has a hamlet head who conveys village progress to the community. The character of the people of Kota Rantang Village in terms of working together and collaborating with village officials aims for village development and community welfare (Hasibuan, 2021).

Based on the Previous Research

On the other hand, development communication has a goal that does not only focus on communicating messages or them to convey society. Development communication is much more important, namely growing, mobilizing, and fostering community participation in development (Sutowo et al., 2020). The communication strategy to increase community participation in the village development begins with laying the foundation for community analytical skills through education and training so that they can recognize village problems and potential, as well as the benefits of the development that will be carried out. go out.

This research carried out a determination test, namely to see how much influence development communication has on community participation in Kota Rantang Village, as follows:

$$CD = r^2 \times 100 \%$$

$$CD = 0,840^2 \times 100 \%$$

$$CD = 0,7056 \times 100 \%$$

$$CD = 70,56 \%$$

Information

CD = Strength of Determination

r^2 = Rank Order Correlation Coefficient

Based on the table above, the coefficient results are obtained correlation of 0.840 with a significance 0.001. Based on the Guilford scale, the *correlation coefficient* of 0.840 is at 0.76–0.99 *very strong correlation*.

The Objective

The purpose of this research aims to determine the characteristics of the community in implementing development programs in the village of Kota Rantang, Deli Serdang, North Sumatra, Indonesia. Development Communication is a systematic usage of communication in support of community development. It aims at sharing knowledge and skills, imparting ideas, cultivating productive attitudes, and motivating stakeholders on the ground level to resolve a specific issue or to improve the existing condition of a community (Mutyala, Pratima, 2023). *In this case, the author will focus on characteristics mapped based on level of education, occupation, age, and gender.*

Method

This research method was carried out using a quantitative approach (correlation). A quantitative research approach is a method used to answer research problems related to data in the form of numbers and programs to describe the approach, type of research, population and sample, research instruments, techniques of data collection, and data analysis in a proposal or research report, which is necessary for understanding each of these concepts (Pujileksono, 2015). The method that will be used in this research is correlational research. Correlational research is a method used to see whether there is a causal relationship or influence. Apart from that, this research is designed to find the level of relationship between different variables in a population (Azwar, 2007).

This research applies purposive and accidental sampling techniques (statistics). Data collection techniques include field research, questionnaires, and literature studies. Purposive sampling is a data collection technique with certain considerations based on the researcher's objectives (Sugiyono, 2016). Accidental sampling is a technique for determining samples based on chance; that is, anyone who meets the researcher by chance can be used as a sample if it is deemed that the person they meet by chance is suitable as a data source.

The Results

The results in this study were based on 4 characteristics including: age, occupation, gender, and education. The assessment scale has 5 classification categories and 5 assessment scales (*Characteristics are Mapped Based on: Level of Education, Occupation, Age, Gender*).

Level of Education

Table 1: The Relationship Between Education Level and the Priority Scale of Village Officials in Village Development Programs

		The Relationship Between Educational Level and Scale Village Officials' Priorities in Development Programs										Total
		Not involved		Less Involved		Simply Involved		Involved		Very Involved		
		F	%	F	%	F	%	F	%	F	%	
Education	Elementary school	0	0	0	0	1	8.3 %	6	50 %	5	41.7 %	12
	Junior high school	0	0	0	0	6	14.6 %	22	53.7 %	13	31.7%	41
	Senior High School	2	5.1%	0	0	16	41 %	14	35.9 %	7	17.9 %	39
	Undergraduate School	0	0	0	0	4	57.1%	2	28.6 %	1	14.3 %	7
	Graduate School	0	0	0	0	0	0	0	0	0	0	0
Total											99	

The picture above shows that the respondents in the education category who chose the highest were junior high school respondents, with a total of 41, with the highest choice being priority, with a percentage of 53.7%, or a percentage of 22 respondents. The results of cross-sectional data show that respondents with junior high school education or equivalent assess that the priority scale of village officials is very satisfactory in the village development program, they were not higher education. However, respondents are included in the assessment scale as prioritized and very positive regarding the community's response in expressing ideas or notions of the village better with village development programs every year.

Documentation



Figure 1: The process of building a mosque with the people of Kota Rantang Village



Figure 2: The process of installing paving blocks for the people of Rantang City Village

Occupation

Table 2: The Relationship Between Work and Voluntary Involvement Implementation of the Village Development Program

		Voluntarily involve yourself in Implementation Village Development Program.										Total
		Not involved		Less Involved		Simply Involved		Involved		Very Involved		
		F	%	F	%	F	%	F	%	F	%	
Occupation	Farmer	3	5.4 %	1	1.8 %	3	5.4 %	43	76.8 %	6	10.7 %	56
	Self-employed	9	75%	0	0	1	8.3 %	2	16.7 %	0	0	12
	freelance	3	15.8 %	0	0	2	10.5 %	12	63.2 %	2	10.5 %	19
	private sector employee	2	22.2 %	0	0	5	55.6%	1	11.1 %	1	11.1 %	9
	Civil servants	1	33.3 %	0	0	0	0	2	66.7 %	0	0	3
Total											99	

The table above shows that the community's work as farmers, with a total of 56 respondents, is involved with a percentage of 76.8%, or a frequency of 43 respondents, who are often involved and voluntarily involve themselves in the implementation stage of the village development program because they live, are very familiar with the situation, and will report it to village officials as an aspiration and will be included in planning village development programs.

Age

Table 3: The Relationship Between Age and Village Development Program Messages Delivered Understandable

		Ordered the Yang Village Development Program Delivered Understandable										Total
		Do not Understand		Do not Completely Understand		Just Understand		Understand		Really Understand		
		F	%	F	%	F	%	F	%	F	%	
Usia	18-24 tahun	0	0	0	0	0	0	0	0	0	0	0
	25-31 tahun	0	0	0	0	5	45.5%	6	54.5 %	0	0	11
	32-38 tahun	1	3.8 %	1	3.8 %	8	30.8 %	13	50 %	3	11.5 %	26
	39-45 tahun	0	0	0	0	4	14.3 %	19	67.9 %	5	17.9 %	28
	46-52 tahun	0	0	0	0	5	14.7 %	19	55.9 %	10	29.4 %	34
Total											99	

The community assessed that the delivery of development program messages was understood. The percentage of respondents was different, but the majority frequency was the same, with the percentage aged 39–45 years, namely 67.9%, and 46–52 years, with a percentage of 55.9% and the same frequency of 19 people. The message of the village development program conveyed understood.

Gender

Table 4: The Relationship Between Gender and the Ability of Rantang City Village Officials in Delivering Village Development Programs

		The ability of Rantang City Village Officials in Delivering the Urban Village Development Program Rantang.										Total
		Not involved		Less Involved		Simply Involved		Involved		Very Involved		
Gender		F	%	F	%	F	%	F	%	F	%	
	Man	0	0	2	3.5 %	20	35.1 %	22	38.6 %	13	22.8 %	57
	Woman	0	0	1	2.4%	3	7.1 %	29	69 %	9	21.4%	42
Total												99

The community assesses the ability of village officials to implement the Rantang City Village development program based on gender for men with a percentage of 38.6% or a frequency of 22 respondents. In implementing village development, men's role will be much greater, but women have a large role in disseminating information, with a percentage of 69% or a frequency of 29 respondents. If this is done individually without collaborating on their respective roles, it will certainly take longer to realize the planned development program.

Discussion

The results of this research show that the *characteristics of the Kota Rantang Village community are cooperative in their implementation with the characteristics level of education, occupation, age, and gender*. The average *level of education* of the people in Kota Rantang Village is *junior high school, with a frequency of 22 people and a percentage of 53.7%*. The average *occupation* in Kota Rantang Village involved voluntarily in implementing village development programs is *farmer, with a frequency of 43 people, or a percentage of 76.8%*. The *age grouping* is *46–52 years old* on the assessment scale for development program messages delivered to people in Kota Rantang Village in the *category of understanding and very understanding total 34 people*. The *female gender* category is able to deliver development programs to the entire community with *a frequency of 29 people with a percentage of 69%*.

Conclusion

The four characteristics of the Kota Rantang Village community show that with minimal access and infrastructure as well as limitations in the village, development communication in the village is closely related to age, gender, occupation, and level of education to solve development problems through the program.

References

- Arma, Nur Ambia, Junaidi, Jaffisa, Tomi. (2020). Peningkatan Aparatur Dalam Perencanaan Pembangunan Desa di Desa Kota Rantang. Vol. 1 (2). P. 91-95.
- Azwar, Saifudin. (2007). Metode Penelitian. Yogyakarta: Pustaka Pelajar.
- Deviyanti, Dea. (2013). Studi Tentang Partisipasi Masyarakat Dalam Pembangunan Di Kelurahan Karang Jati Kecamatan Balikpapan Tengah. E-Journal Administrasi Negara, 2013, 1 (2): 380-394.
- Hasibuan, Nabila, Afifaturrahana. (2021). Pengaruh Komunikasi Pembangunan Terhadap Partisipasi Masyarakat Desa Kota Rantang, Hamparan Perak, Deli Serdang, Indonesia. Skripsi, Universitas Sumatera Utara)
<https://Repositori.Usu.Ac.Id/Handle/123456789/47043>
- Mutyala, Pratima. (2023). A Conceptual Study on Scope of Participatory Development Communication in Promoting Sustainable Agriculture in India. Journal Of Development Communication, Volume 34 (1). P. 47-54.
- Pujileksono, Sugeng. (2015). Metode Penelitian Komunikasi Kualitatif. Malang: Intrans Rosdakarya.
- Sugiyono. (2016). Metode Penelitian Kuantitatif dan R&D. Bandung: PT Alfabet.
- Sutowo, Irpan, Ripa'I and Wahyuningratna, Ratu Nadya. (2020). Komunikasi Pembangunan, Partisipasi Masyarakat dan Media Online Pada Program Berbagi Air di Desa Pasarean Kabupaten Bogor. Vol. 3 (2). P. 87-103.

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***Investigating the Impact of User-Friendly Video Guides on Emotional States
During Hospital Navigation***

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Abstract

One problem for hospital visitors is getting lost in the hospital, especially when visiting for the first time because of its large size, complex layout, and many sections. This research focuses on decreasing the way in the hospital by developing video clips and maps for navigation by using the concept of User Experience (UX)). Fifty participants joined in this research. We compared the emotion with four positive - neutral - negative emotions: (1) Interesting - Boring (2) Friendly - Not friendly (3) Calm - Anxious (4) Happy -Sad. The results show that the respondents feel positive about both navigation methods. However, using video clips makes the respondents more satisfied than using maps.

Keywords: User Experience, Navigation, Emotion, Algorithm

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Introduction

The various sections and rooms in the hospital are prepared to serve or support patients, such as the patient room, operating room, emergency room, X-ray room, laboratories, doctor's office, pharmacy, examination room, support services, etc. Hospital buildings are complex structures because many rooms are needed to cover all operations. The room design and layout in the hospital building are careful to ensure the flow of the people who come to the hospital, such as doctors, nurses, patients, caretakers, visitors, and pharmacists. Even though the layout is already planned, people may need clarification about walking into the hospital, especially the first time they visit.

The label, sign, or map is used to find the way to the hospital. Many hospitals use these to help navigate, but these things may not be easy to follow. However, some people have difficulty finding a way because they have a problem with their eyes looking at the label or do not understand the signs telling the way to that hospital. This problem will increase when the hospital's layout is complex and extensive. The effect of these problems is easy to get lost and confused. This can make it stressful and unsatisfying, especially if that person is dealing with an appointment with the doctor. In terms of service, this problem can affect the experience of those who use static navigation throughout the walk. Then, the design of the operation of using the material or technology to help the user is needed. Before designing or creating a new thing, the concept and idea of User Experience (UX) can help the designer to design.

User Experience (UX) design aims to tailor interactions to user behaviours and needs, prioritizing a positive and intuitive experience across systems, websites, applications, products, and services. UX design extends beyond aesthetics, focusing on creating satisfaction and ease of use. It enables users to understand functionality and achieve goals effortlessly. The core of UX design involves understanding users and analyzing their requirements, behaviours, and usage challenges. This information guides the design process, resulting in user-friendly, efficient interfaces that deliver excellent user experiences.

At the beginning of UX operations, the team and designers must understand people's emotions. There are various types of emotions, including positive, neutral, and negative. The users' emotions and experiences happen when they use that service or product. If that service and product are not good, it will affect the user's attitude and continuing use.

In this paper, we focus on using navigation material for users through design based on UX and also consider users' emotions. The clip video and maps were created and tested for use by the users. After users had used it, we asked about their emotions when they used it and which ones they would prefer to use in the future. Moreover, we find the relationship of emotions.

Literature Review

UX design is not limited to creating work or jobs. However, it is designed to create more incredible satisfaction and ease of use for the customer or user. The critical point of the design is that users can easily understand how to use it and achieve their goals very quickly. Then, before designing UX, the designer has to consider the key of UX design, which is understanding the user. After getting the information and understanding from the users, the needs, behaviour, and barriers to use must be precise. Then, take that information to design and change until that design is easy to use, efficient, and gives a good user experience.

It is very important to observe and interview the user to gather data on the customer's needs, opinions, and feelings when using the product. UX design is essential for the company and business because it helps find a better solution and defines the scope of the customer and product before production. Moreover, the steps of UX help the developer understand the customer and product more deeply. The concept of user design of UX has five main steps as follows:

1. Empathize

The first step is to empathize. To design a product or service to support customers, one must understand the user's problem. The methodology for understanding the user's problem starts with an interview with the user, using open-ended questions to encourage and motivate the user to share their experience. Moreover, observing the customer's behaviour is essential, too, because sometimes it's related to or different from the customer's answer.

2. Define

The designers have to analyze the data to get the problem's main point and understand the user's problem. The first step is to analyze the data, separate the factors of the data, find the relationship, and understand the meaning of the data.

3. Ideate

This stage involves brainstorming with the media to share opinions on solving the problem and creating new innovations. The review insight data from the define phase must be prepared. After that, try to set a clear objective for the idea session.

4. Prototype

The objective of creating the prototype is to develop before producing the finished product after getting the idea. If the finished product is produced before, the risk of failure may be higher than when creating the prototype and testing with the target group of users or customers. Also, sometimes, if the finished product is not satisfactory for the customer, it can fail. The prototype helps the designer to learn about the behaviour of humans or users. Also, the design team can test the results of solving the problem before investing in the products.

Previous studies about user experience and navigation Zhang, C., & Chen, B. (2019) proposed to enhanced experiential learning by creating a 3D virtual environment with a Virtual Reality (VR) for students. The students can design, plan, and interact with VR architectural project. The student who test this tool feel positive feed back and also feel high interested in learning through this project. Moreover, the students wanted to use more rounds for improving their performance. Kumar, D. et al. (2022) proposed to created the system to overcomes limitation of navigation tool. The problem that they found was the traditional digital mapping systems have the limitations. Moreover, the problem included GPS dependency and lack of contextual information about surroundings. This system was create and implemented by design as a mobile application for smartphones. The performance of this system can step count detection accuracy improved by nearly 0.5% and average locational accuracy of 2.5 meters. Rennick, B. (2019) proposed to improve the academic library service website. The improved website was created by considering user experience. The results after improve the service were showed that the increasing the performance of service information and also became the effective tool of the facilitating service. Chaudary, B. (2021) developed and tested the navigation assistance system for blind and visually impaired individuals. The teleguidances were used. The smartphone camera was used for attached to user's chest and send live video to a remote caretaker. Then, the care taker could guide user for feedback and

voice communication. Sekhavat, Y.A., & Parsons, J. (2018) used Augmented Reality (AR) technology for navigation and finding the way of tourists. They found AR navigation significant impact to user experience quality. Coccoli, M., Torre, I., & Galluccio, I. (2023) studied innovative approach for enhance video-based learning experiences by hyper video educational application. The proposed system was implemented as a custom web-based video player with interactive visual tools. The results show the demonstrate the effectiveness of improving video based learning experiences. Tscharn, R. et al. (2016) compared the two types of interaction methods of new tracking technologies and touchable interfaces. The finding of this research on bare- hand interaction of tracking technology has the higher joy-of-use and better efficiency in easy navigation tasks. Meanwhile, the touchable interface, the initial use improved efficiency for bare-hand has interaction more complex task.

In the previous studies about user experience and emotion, Greenfeld, A. et al. (2018) compared the user experience and emotion of users who tested five immersive virtual reality environments: head-mounted Displays, virtual reality (VR), Mixed reality (MR), and Augmented reality (AR), to support the developer in creating exciting content. Mixed methods were used to obtain the information, such as the questionnaire, measuring mental effort, user feedback, and interviews. Jussi P.P. Jokinen (2015) investigated the different responses of emotion in human-technology interaction. The concept of emotion is also applied to user experience. Fifty joined as respondents to conducting. They found that the user's emotions depend on the situation and also the differences people deal with regarding the situation's job and the experience of the user's emotions.

Methodology

The proposed testing is to compare the interest in using navigation. The patients and the people who are not working in the hospital were respondents because they do not often walk in the hospital, so it's highly possible to lose the way in the hospital more than those working there. There are two types of navigation: video clips and maps. For the video clips, we created by considering the way to walk in the hospital. At the beginning, the point or location that the patients and the people who are not working in the hospital can use or enter were listed. Other places were missing from the list, such as the doctor's private office, staff, nurses, laboratories, or rooms are not allowed in the hospital.

After a list of rooms or locations had finished, the best way to walk or take the patients from point to point was created. Then, we walked and recorded video clips along the way. After that, we made a video clip by adding some information to help the user understand, such as turning left, turning right, or using the lift. These videos can be used on smartphones. Then, the people who use it can also walk it along the way when they are walking. Meanwhile, the map can look at the hospital's location, such as a label or map picture on the wall.

Fifty respondents participated were joined in this research. Random select respondents were used. We want to compare the emotions of the hospital customers who use video clips and maps. Four sets of emotions were used as follows:

1. The first set of emotions is the emotion of (1) Very interesting, (2) Interesting, (3) Neutral, (4) Boring (5) Very boring.
2. The second set of emotions is the emotion of (1) Very friendly, (2) Friendly, (3) Neutral, (4) Not friendly, (5) Very not friendly.
3. The third set of emotions is the pair of emotion of Clam-Anxious (1) Very clam (2) Clam (3) Neutral (4) Anxious (5) Very anxious.

4. The fourth set of emotions is the pair of emotion of Happy-Sad (1) Very happy (2) happy (3) Neutral (4) Sad (5) Very sad.

Results

The results are shown in Table 1. Overall, the comparison results of emotions between using video clips and maps for navigation guides in the hospital show that using video clips elicits more positive emotions than using maps. Most respondents felt that video clips were interesting, very friendly to use, very calm, and very happy to use. Meanwhile, most respondents feel interested, friendly to use, calm and feel neutral between happy and sad.

Table 1: The comparison results between using clip video and map for navigation in the hospital

Pair of emotions	Total number (%)	
	Clip video	Map
Interesting-Boring		
Very interesting	42.11	0.00
Interesting	50.00	69.23
Neutral	7.89	30.77
Boring	0.00	0.00
Very boring	0.00	0.00
Friendly-Unfriendly		
Very friendly	51.28	7.69
Friendly	43.59	46.15
Neutral	2.56	38.46
Unfriendly	0.00	7.69
Very unfriendly	2.56	0.00
Clam-Anxious		
Very clam	43.24	0.00
Clam	36.73	43.75
Neutral	5.17	23.53
Anxious	0.00	11.11
Very anxious	0.00	0.00
Happy-Sad		
Very happy	31.58	23.08
Happy	9.21	5.13
Neutral	13.16	38.46
Sad	0.00	7.69
Very sad	0.00	0.00

The results of Table 2 show the total of respondents who have the same feeling to prefer to use video clips and maps. Moreover, most of the thirty-seven respondents, around 74%, prefer to use video clips. Otherwise, thirteen, or 26%, prefer to use a map. The highest score for the relationship of emotion among the respondents who wanted to use the video clip was six. The set of emotions is interesting, friendly, calm, and happy. However, there is one set of five respondents. The set of emotions is very interesting: very friendly, very calm, and very happy. There are two sets of emotions, with four respondents in each set. The first set is interesting, friendly, very calm, and happy. The second set is very interesting, very interesting, calm, and happy. The results of the group of respondents who prefer to use video

clips show that they feel positive about using them. Meanwhile, only two respondents in the group who prefer to use maps more than video clips feel interested, friendly, calm, and happy. In the other set of emotions, there is only one respondent. However, they still feel positive about using a map but smaller than video clips.

Table 2: The results of the relationship of emotion

No.	Type of satisfy navigation		Pair of positive and negative emotions				Total
	Video	Map	Interesting-Boring	Friendly-Unfriendly	Clam-Anxious	Happy-Sad	
1	/		Neutral	Friendly	Clam	Neutral	2
2	/		Neutral	Very friendly	Very clam	Neutral	1
3	/		Interesting	Neutral	Neutral	Neutral	1
4	/		Interesting	Friendly	Neutral	Happy	1
5	/		Interesting	Friendly	Clam	Happy	6
6	/		Interesting	Friendly	Clam	Very happy	1
7	/		Interesting	Friendly	Very clam	Happy	4
8	/		Interesting	Friendly	Very clam	Very happy	1
9	/		Interesting	Very friendly	Clam	Neutral	1
10	/		Interesting	Very friendly	Clam	Happy	2
11	/		Interesting	Very friendly	Very clam	Very happy	2
12	/		Very interesting	Friendly	Clam	Happy	1
13	/		Very interesting	Friendly	Clam	Very happy	1
14	/		Very interesting	Very friendly	Neutral	Very happy	1
15	/		Very interesting	Very friendly	Clam	Happy	4
16	/		Very interesting	Very friendly	Very clam	Happy	3
17	/		Very interesting	Very friendly	Very clam	Very happy	5
18		/	Neutral	Neutral	Neutral	Neutral	1
19		/	Neutral	Neutral	Clam	Neutral	1
20		/	Neutral	Neutral	Clam	Happy	1
21		/	Neutral	Neutral	Clam	Very happy	1
22		/	Interesting	Unfriendly	Neutral	Neutral	1
23		/	Interesting	Neutral	Anxious	Happy	1
24		/	Interesting	Friendly	Anxious	Neutral	1
25		/	Interesting	Friendly	Clam	Neutral	1
26		/	Interesting	Friendly	Clam	Happy	1
27		/	Interesting	Friendly	Clam	Happy	2
28		/	Interesting	Friendly	Clam	Very happy	1
29		/	Interesting	Very friendly	Clam	Very happy	1

Conclusion

The layout of hospitals is complex because of the various types of rooms. It is hard to change rooms because the materials, functions, or facilities in each room are so different. Then, hospital navigation is a significant challenge for the first-time visitor. This paper presents and compares two types of video clips and maps for navigating the patients or the people who come to the hospital. Before designing the navigation, the room that the people who are not staff can enter and use was listed. The video clips and maps showed the location as the list was made based on UX. After that, we invited the respondents to test the navigation use and ask about their feelings. Four sets of emotions were chosen and compared.

The results show that most respondents would like to use video clips more than maps. Respondents' feelings were more positive when using video clips than when using maps. Moreover, the relationship of emotions is also positive. In future work, we will compare more emotions and test with the other navigation.

References

- Chaudary, B., Pohjolainen, S., Aziz, S., Arhipainen, L., & Pulli, P. (2021). Teleguidance-based remote navigation assistance for visually impaired and blind people—usability and user experience. *Virtual Reality*, 27, 141 - 158.
- Coccoli, M., Torre, I., & Galluccio, I. (2023). User experience evaluation of Edurell interface for video augmentation. *Multim. Tools Appl.*, 83, 36695-36717.
- Greenfeld, A., Lugmayr, A., & Lamont, W. (2018, December). Comparative reality: Measuring user experience and emotion in immersive virtual environments. *In 2018 IEEE International Conference on Artificial Intelligence and Virtual Reality (AIVR)*, 204-209.
- Jussi P.P. Jokinen. (2015). Emotional user experience: Traits, events, and states, *International Journal of Human-Computer Studies*, 76, 67-77.
- Kumar, D., Iyer, S., Raja, E., Kumar, R., & Kafle, V.P. (2022). Enhancing User Experience in Pedestrian Navigation Based on Augmented Reality and Landmark Recognition. *2022 ITU Kaleidoscope Academic Conference*.
- Rennick, B. (2019). Library Services Navigation: Improving the Online User Experience. *Information Technology and Libraries*, 38, 14.
- Sandoval, E.B., Li, B., Diakit , A.A., Zhao, K., Oliver, N., Bednarz, T.P., & Zlatanova, S. (2020). Visually Impaired User Experience using a 3D-Enhanced Facility Management System for Indoors Navigation. *Companion Publication of the 2020 International Conference on Multimodal Interaction*. 92-96.
- Sekhavat, Y.A., & Parsons, J. (2018). The effect of tracking technique on the quality of user experience for augmented reality mobile navigation. *Multimedia Tools and Applications*, 77, 11635-11668.
- Tscharn, R., Schaper, P., Sauerstein, J., Steinke, S., Stiersdorfer, S., Scheller, C., & Huynh, H.T. (2016). User Experience of 3D Map Navigation - Bare-Hand Interaction or Touchable Device? *Message Understanding Conference*. 4. - 7. September 2016.
- Zhang, C., & Chen, B. (2019). Enhancing Learning and Teaching for Architectural Engineering Students using Virtual Building Design and Construction. *Higher Education Studies*. 9, 45-56.

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A Data Analysis and Interactive Visualization Approach With SPI for Initial Drought Assessment in Guanajuato, Mexico

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Abstract

Droughts present a series of significant problems that affect both the environment and society. Problems arise in different intensity, scope, type of impact by region, for example water scarcity affects supply of water for human consumption, agriculture, industry and the environment. To address these problems, it is crucial to implement water management strategies and a continuous monitoring are essential to predict and mitigate the effects of droughts. The Standardized Precipitation Index (SPI), tells us if it has rained normally in a region during a certain time range. The SPEI allows assessing the severity of drought on different time scales. Guanajuato state, nestled in central Mexico, have a semi-arid climate, with an average annual rainfall of 650mm. This work uses data analysis techniques to conduct an initial drought assessment for state of Guanajuato. The Python informatic language was used to generate a web platform, data visualization, generating interactive maps, informative graphs, and comprehensive data tables, we used the information of 29 climate monitoring stations, and we analyzed data spanning from January 2000 to November 2023, resulting in a final dataset of 8,294 entries. Preliminary results from our ongoing work presents time series of SPI records helped visualize key characteristics such as trend, seasonality, and cyclicity. Each station's SPI is visualized by a heat map, where vibrant colors paint the picture of their values over time, across different years.

Keywords: SPI, Data Analysis, Mexico, GTO

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Introduction

Guanajuato (Gto), nestled in central Mexico, basks in a semi-arid climate. With an average annual rainfall of 650mm and 30°C peaks in May-June, it's no stranger to warm weather.[1] But recent years have seen temperatures intensify, casting a shadow of drought across the region.

To track the dryness, scientists have turned to various tools, with the Standardized Precipitation Index (SPI) emerging as a useful tool. This handy metric, used in climate studies, quantifies precipitation anomalies in a specific area over time. It essentially weighs current rainfall against historical averages, offering a clear picture of drought, excess rain, or normalcy. Positive values signify rain abundance, negative ones of drought, and values hovering near zero shows a balanced precipitation (Table 1).[2,3]

Table 1. Range and interpretation of the “Standardized Precipitation Index” (SPI) standard.

SPI Value	Interpretation
-2.0 or <	Extreme drought
-1.5 to -1.99	Severe drought
-1.0 to -1.49	Moderate drought
-0.99 to 0.99	Normal precipitation
1.0 to 1.49	Moderate excess precipitation
1.5 to 1.99	Severe excess precipitation
2.0 or >	Extreme excess precipitation

Though the SPI index unveils drought patterns, its extensive historical data can be unwieldy. Data analysis, encompassing collection, cleaning, exploration, and interpretation, offers a solution. This approach not only streamlines data management but also unlocks valuable insights to inform decisions.[4]

The PSI have some strengths like:

Data-efficient: Relies solely on precipitation data, making it applicable in regions with limited climate data.

Multi-scale analysis: Measures drought/wetness severity at different "time windows" relevant to various water resources, like soil moisture or groundwater.

Climate-independent: Performs better than PDSI (Palmer Severity Drought Index) when comparing across regions with diverse climates.

Simple calculation: Relatively straightforward to compute compared to PDSI.

And limitations like:

Ignores evapotranspiration: Doesn't consider water loss through evaporation and plant transpiration, potentially underestimating drought impact in warmer climates.

Data sensitivity: Requires reliable and long-term precipitation data (30-50 years preferred) for accurate calculations.

Precipitation intensity: Focuses solely on precipitation amount, missing the impact of intense rainfall patterns on runoff and water availability.

One of the SPI's most valuable features is its ability to adapt to different timescales 1, 3, 6, 12, 18, 24, 36, 48, and 60 months. While it can pinpoint drought intensity for specific periods like a month or five months, it also excels at capturing the bigger picture by analyzing drought patterns across various timescales simultaneously. Researchers often use precipitation data for

durations ranging from one to 60 months to compute the SPI for each timeframe, providing a multi-faceted view of drought conditions. Furthermore, spatial and temporal data visualization creates a crucial reference framework.[4,5,6,7]

Rain doesn't fall evenly, It tends to come in bursts, with many small showers and fewer, heavier downpours. This uneven pattern is called an asymmetric frequency distribution. The reception distribution is usually skewed, with low values and high. To obtain a more precise result, it is advisable to fit the distribution to a mathematical function, such as the gamma distribution or the Pearson III.

The SPI, takes into account the average rainfall in a region and how much it varies over time, the bell curve representing the typical rainfall pattern. The SPI tells us how far a specific rainfall amount falls from the "sweet spot" in the middle of that curve.

The transformed precipitation data are then used to compute the dimensionless SPI value, defined as the standardized of the precipitation [4], The summary calculation of PSI is:

$$SPI = (P - P^*) / \sigma_p$$

where P = precipitation, p* = mean precipitation.

To visualize the data, time series were used, which are sequences of data that are collected or recorded at regular time intervals. In this case, the data collected was daily, but grouped in months, from the year 2000 to 2023. Time series help visualize key characteristics such as trend (a long-term movement in the data), seasonality (patterns that occur repeat at regular intervals), and cyclicity (fluctuations that do not have a fixed pattern or that repeat at irregular intervals). A computational interface was developed with a graphical view where the user can, on the same graph, view all the data, modify the time interval or select the graph to see a set of data of interest in a zoom view, without requiring re-generation. a new query.[8]

Recognizing the limitations and insights discussed previously, this project seeks to utilize the SPI index as a synergistic indicator of drought, alongside data analysis techniques, to establish a comprehensive spatial and temporal database of drought occurrences within Guanajuato.

Methodology

The initial phase of this project involved developing the data analysis model, outlined in the following section.

Data collection: Precipitation data was retrieved from Conagua's drought monitor repository by querying historical values.[1]

Data Cleansing, Data Exploration and Data Preparation: Building the analysis model for this project began with data acquisition. We accessed historical precipitation data for all Mexican stations through CONAGUA's repository. Using Python, we then cleaned and explored the data, ultimately preparing it by filtering for stations located in Guanajuato state (prefix "11"). This step ensured our analysis focused on the relevant data for our project.

The initial data extraction from the relevant stations yielded a data structure not conducive to direct analysis, as shown in Table 2. To overcome this obstacle, we meticulously reorganized the data into a more user-friendly format, presented in Table 3. This involved several steps: firstly, the extraction of the first two rows containing geographical position data, which were subsequently placed in a dedicated file named "GPS_pos.csv". Next, we embarked labeling process, renaming the first and second columns to "year" and "month", respectively. Additionally, a new "Record" column was introduced to provide a consecutive index for each entry. Finally, the data was filtered to retain only columns beginning with "11", signifying GTO status. Importantly, other columns pertaining to the monitoring stations remained untouched throughout this process.

Table 2. Original CONAGUA precipitation data.

Stn	1004	1005	...	32055
Lat	22.01	21.78	...	22.1
Lon	-102.2	-102.14	...	-102.87
1951	1	-999.99	...	-999.99
...
2023	9	-2.71	...	-2.35
2023	10	0.4	...	-0.94

Table 3. Modifications to allow data analysis.

Item	year	month	1004	1005
2	1951	1		
3	1951	2		
6	1951	5		
...

Data analysis uncovered a data type mismatch for the " month " variable. Initially defined as "object," it was later assigned "int64" (Table 4). To ensure data consistency and accurate analysis, this discrepancy needs to be addressed.

Table 4. Conversion from "Object" data type to "Int".

Item	Int64	Item	Int64
year	Objet	year	Int64
month	float64	month	float64
11001	float64	11001	float64
11002	float64	11002	float64
11003	float64	11003	float64

We analyzed data spanning from January 2000 to November 2023, resulting in a final dataset of 8,294 entries. This equates to 286 rows and 29 columns. Notably, some station columns contained missing values represented by NaN, 0, and -999.99. These missing values constituted 0%, 0.482%, and 7.73% of the total data, respectively (Figure 1).

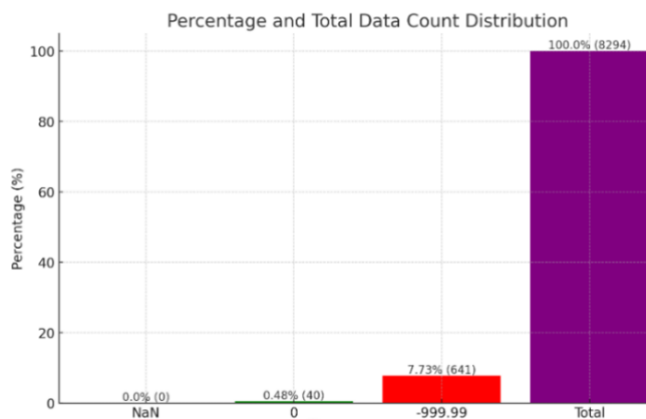


Figure 1. Representative table of missing records Vs total data from the 29 stations in the state of GTO.

Consequently, these records were filled with values, using an average between the previous and next year and the same month, to assign a referenced numerical value.

Analysis techniques: A temporal view in maps by year and a time series view of all records were used.

Data analysis, Interpretation of results, Communication of results and Decision making: These proposed stages, including a potential web interface, would be implemented in the project's second phase.

Results

Figure 2 presents time series of SPI records, while Figure 3 displays the geographical locations of the stations. These initial findings suggest localizations for mitigation actions.

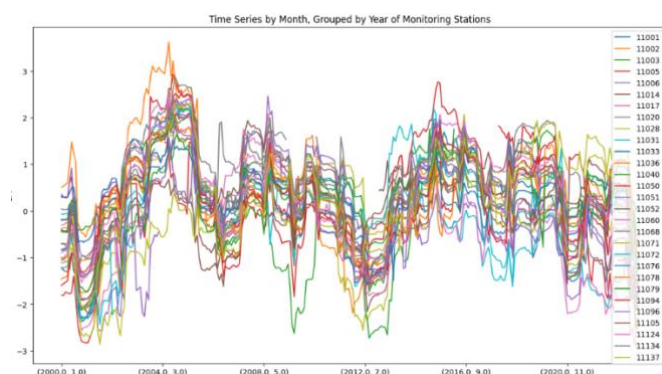
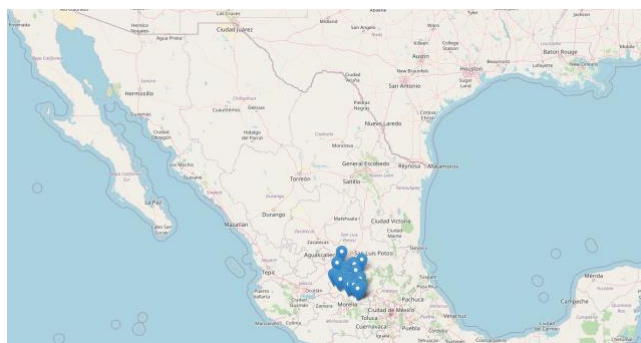
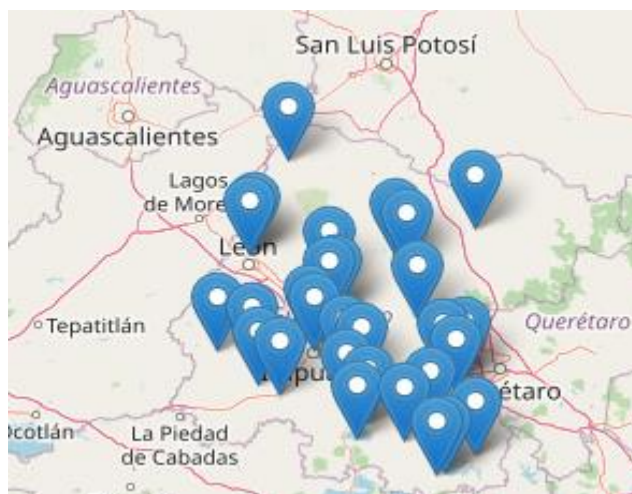


Figure 2. Time series of GTO status SPI records 2000-2023



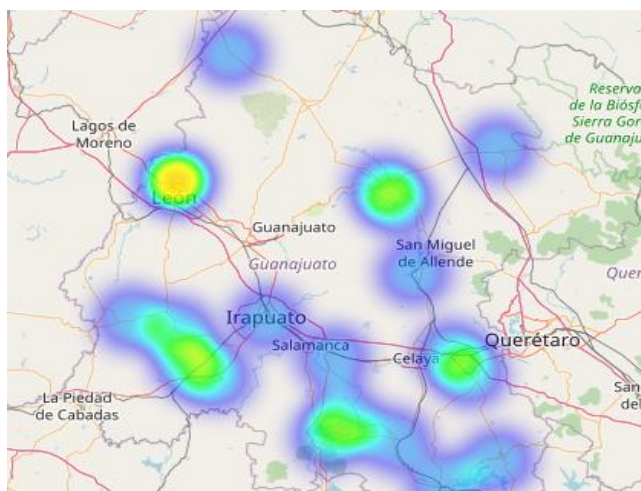
a)



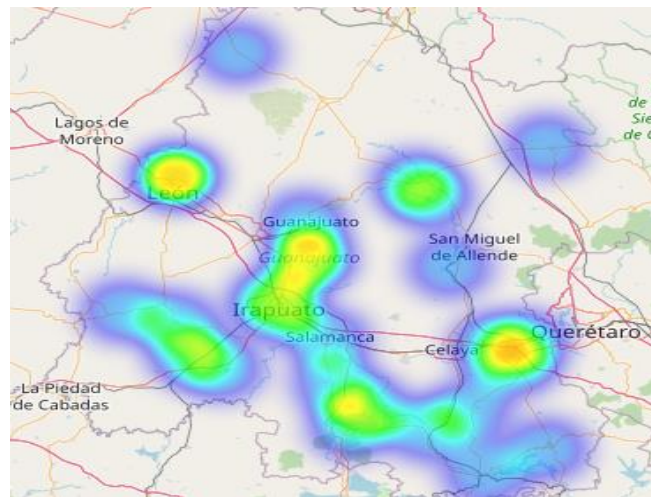
b)

Figure 3. a) Geographic location view of stations within Mexican territory, b) detailed view of stations within the state of GTO.

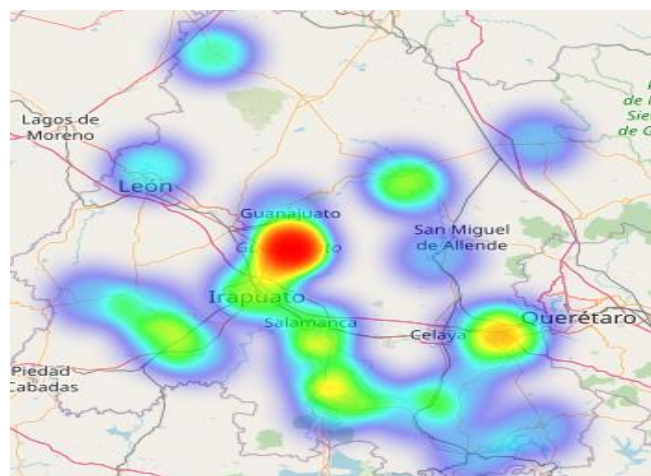
In Figure 4, a map comes alive, revealing a network of stations pulsating with data. Each station's health is visualized by a heat map, where vibrant colors paint the picture of their SPI values over time, across different years. GPS pinpoint's location right on the map, and the station numbers act as guides. a zoom in for a closer look and get a deeper understanding of its data.



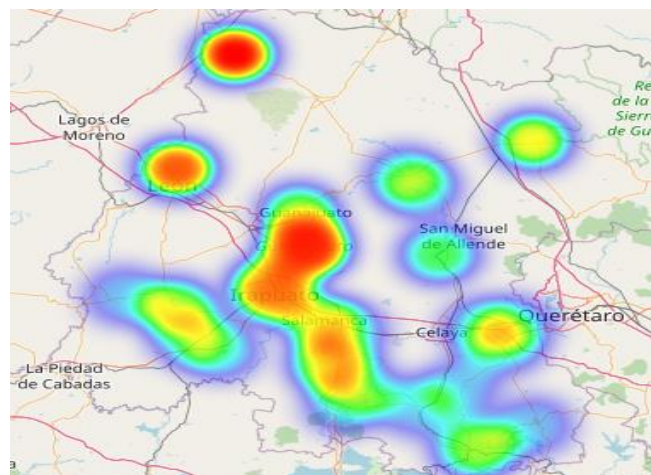
a) Year 2000



b) Year 2010



c) Year 2015



d) Year 2020

Figure 4. GPS position and heat map, of different years and color according to their SPI value.

Conclusions

The Standardized Precipitation Index (SPEI) allows assessing the severity of drought on different time scales, which is important to understand the different impacts of drought on hydrological, environmental and socioeconomic systems. Droughts are a challenging phenomenon to monitor and predict. This is because they can occur quickly, they can depend on processes that are not well resolved in forecast models, and the challenges associated with droughts vary depending on meteorological variables, regional distributions, seasonality and climatic risk factors and of the earth's surface. This suggests that there are different forms of drought development and therefore there is no single definition of drought that is universally accepted.

This study paves the way for applying the SPI methodology in a more comprehensive manner, specifically within the context of the ongoing drought affecting Mexico, particularly the state of GTO. This can serve as a valuable model for addressing similar challenges in the future.

The final interface design is evolving with input from drought researchers. Their focus on real-time data integration will equip the GTO state government with the tools to make informed decisions and address drought challenges proactively.

Acknowledgements

We thank the IDEA GTO fund [9], which is providing economic resources to integrate a project of Data Science applied to water problems, for the generation of national and international scenarios in solutions to regional droughts.

References

- [1] Comisión Nacional del Agua (CONAGUA). (2024). Servicio Meteorológico Nacional. Visualizador Tabular de Modelos de Pronóstico Numérico. <https://smn.conagua.gob.mx/es/modelos-de-pronostico-numerico/visualizador-tabular-de-modelos-numericos>
- [2] Hadley Wickham. (2016). SpringerLink: Data Analysis. https://link.springer.com/chapter/10.1007/978-3-319-24277-4_9
- [3] Ian H. Witten, Eibe Frank y Christopher J. Pal. (2011). Morgan Kaufmann
- [4] National Center for Atmospheric Research (NCAR). (2023). Standardized Precipitation Index (SPI). <https://climatedataguide.ucar.edu/climate-data/standardized-precipitation-index-spi>
- [5] Nazire Goksu Soydan Oksal. (2019). Manfred Mudelsee, Trend analysis of climate time series: A review of methods. *Earth-Science Reviews*, Volume 190, Pages 310-322, ISSN:0012-8252, <https://doi.org/10.1016/j.earscirev.2018.12.005>
- [6] Oliver Schabenberger, Carol A. Gotway. *Statistical Methods for Spatial Data Analysis*, 1st Edition, ISBN 9781032477916
- [7] Manfred Mudelsee. (2019). Trend analysis of climate time series: A review of methods, *Earth-Science Reviews*, Volume 190, Pages 310-322, ISSN 0012-8252, <https://doi.org/10.1016/j.earscirev.2018.12.005>
- [8] Comparative analysis of the influence of temperature and precipitation on drought assessment in the Marmara region of Turkey: an examination of SPI and SPEI indices. *Journal of Water and Climate Change* 1 September 2023; 14 (9): 3096–3111. doi:<https://doi.org/10.2166/wcc.2023.179>
- [9] Gobierno de estado de Guanajuato. (2023). Conexión internacional de la ciencia. <https://idea.guanajuato.gob.mx/convocatorias>

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External and Internal Factors That Affect the Development of Entrepreneurship

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Abstract

Entrepreneurs are confronted with diverse factors that have the potential to positively or negatively impact the expansion of their enterprises. These factors can have an impact on their success or failure. It is important to take them into consideration to have successful ventures. Some entrepreneurs have great ideas and are able to carry them out, but in the long run, these ventures end up closing due to various reasons. In order to provide precise solutions, it is imperative to ascertain the fundamental reasons and underlying causes behind the escalating trend of new enterprises closing prior to entering the growth and consolidation phase in Bolivia. This research aims at helping entrepreneurs establish long-term ventures that have a positive impact on the economy and development of a country. Through the research, quantitative and qualitative instruments were used to gather information from Bolivian entrepreneurs. A survey was conducted to a 404 sample of venture owners. In addition, interviews were carried out to gather more precise information on what is affecting the development of ventures. With the help of these instruments, it was possible to get close to determining which the most important internal and external factors are. This document provides information to entrepreneurs to enhance their preparedness and facilitate the expansion and consolidation of their enterprises. Furthermore, policymakers will find helpful information that will aid them at guiding their efforts accurately and achieving ventures that generate employment, economic activity, and improve the quality of life of the population in general.

Keywords: Entrepreneur, Entrepreneurship, Internal Factors, External Factors

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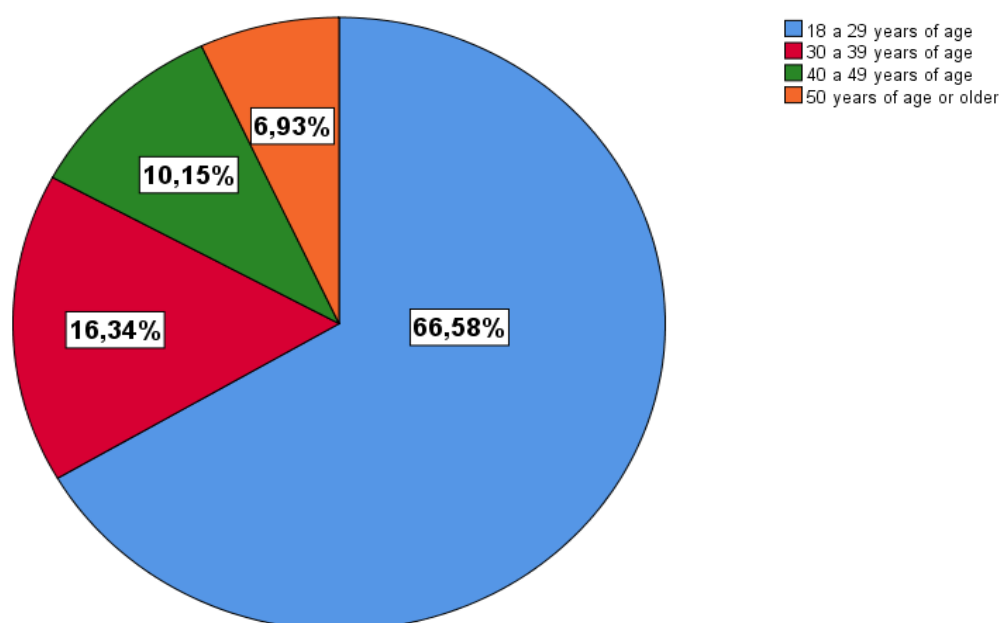
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1. Introduction

An entrepreneur is an individual who possesses a bold idea and possesses the courage to implement it. The entrepreneur is aware that there will be risks involved when bringing a creative concept to life. Entrepreneurship stimulates the economy, which leads to economic growth and, ultimately, the nation's development. In this sense, the entrepreneur also becomes an employer, which lowers the nation's unemployment rate and encourages economic expansion (Garcia and others, 2007).

According to Schumpeter (1976), an entrepreneur is someone who invents new things and moves the economy toward a higher level of equilibrium. The individual who identifies as an entrepreneur possesses the drive to make a positive impact on society and to demonstrate their superiority over others. An entrepreneur is someone who is looking for business opportunities (Kelly, I., 1997).

Jorge Velasco, director of Innova Bolivia, a platform that connects Bolivian university startups with investors, says Bolivia is one of the most entrepreneurial countries. As per the Global Entrepreneurship Monitor (2020) conducted by Babson University in the United States, Bolivia is ranked 6 out of 70 countries with the highest level of initial stage entrepreneurship. Regarding the individual characteristics related to entrepreneurship, Bolivia has higher percentages than the average of the countries of Latin America and the Caribbean regarding attitudes, activities, and characteristics related to entrepreneurship. Most entrepreneurs in Bolivia are young, ranging from 18 to 29 years old. 66,58% of the total population is between the ages mentioned before, as can be seen on Graph 1. Additionally, entrepreneurs are mostly women, as can be appreciated on Table 1, female entrepreneurs between the ages of 18-29 make the largest percentage of entrepreneurial population.



Graph 1: Age of Entrepreneurs in Bolivia

Source: Own elaboration

Table 1: Age and Gender of Entrepreneurs in Bolivia

		What is your gender?		Total
		Male	Female	
What is your age range?	18-29 years of age	64,4%	68,3%	66,6%
	30-39 years of age	16,7%	16,1%	16,3%
	40-49 years of age	9,8%	10,4%	10,1%
	50 years of age or older	9,2%	5,2%	6,9%
Total		100,0%	100,0%	100,0%

Source: Own elaboration

It’s clear that the lack of innovative ideas or motivation is not the problem; the problem is the large percentage of ventures closing before reaching a maturity state. A venture undergoes several stages before reaching its stage of growth. In Bolivia, initial ventures frequently fail to attain the stage of growth, much less the stage of consolidation. This research paper aims at understanding why this is happening so practices and policies can be more effective.

The phases of a venture are generally as follows:

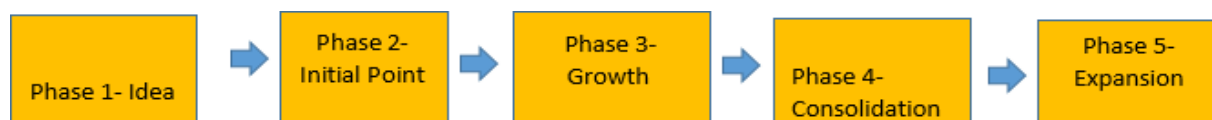


Figure 1: Phases of a Venture

Source: Own Elaboration

2. Analysis

2.1 Evolution of Number of New Businesses Opening and Closing per Year

According to the Global Entrepreneurship Monitor (2014), business dynamism is supported by factors that can guide or hinder business growth. Such factors are called Conditions of the Entrepreneurial Environment and are part of the most important components for any entrepreneurial ecosystem.

Table 2: Number of companies the open and close per year in Bolivia

Year	Number of New Companies	Number of Closing Companies	% Companies that Close
2013	62.052	1.913	3%
2014	42.768	2.584	6%
2015	19.823	5.347	27%
2016	19.211	7.182	37%
2017	18.882	7.331	39%
2018	26.460	6.434	24%
2019	17.825	5.890	33%
2020	14.501	5.480	38%
2021	19.826	5.544	28%
2022	17.177	3.339	19%

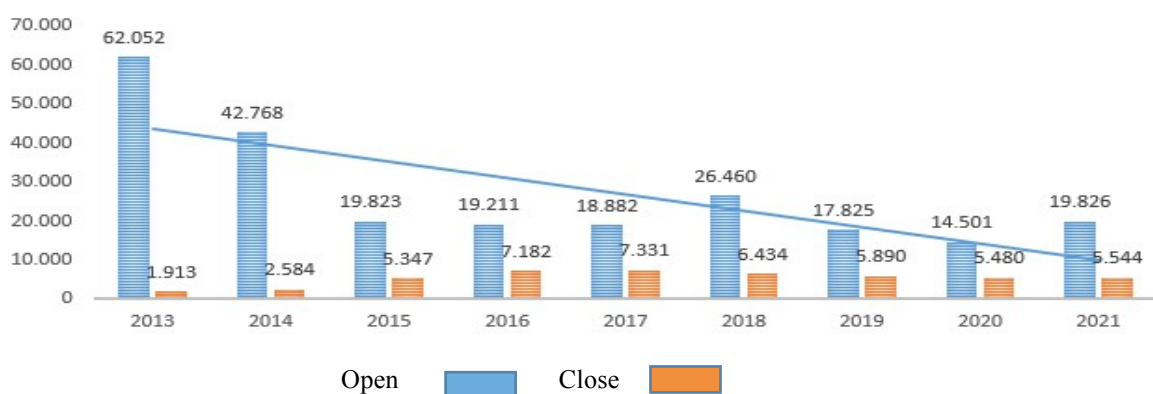
Source: FUNDEMPRESA and SEPREC

According to Table 2 which was elaborated with the latest FUNDEMPRESA and SEPREC report, in 2013 the number of companies that opened reached the highest level, with 65.022 new businesses, since then, the trend's tendency was downward, reaching 14.501 in 2020. However, in 2021, the number of companies that opened rose to 19.826. In 2022, the number of new businesses lessened to 17.177. An interesting fact is that almost 80% of these new businesses are soleproprietorships. This means that most of the new businesses don't hire employees, the owner oversees all the functions.

Fundempresa has stopped functioning and now SEPREC oversees business evolution in Bolivia since 2022.

Ramón Daza, president of the Chamber of Industry, Commerce and Services of Cochabamba, said, that the data reflects how formality is decreasing in the country, overwhelmed by informality that is not only allowed, but promoted by a system that affects and persecutes legitimate enterprises that generate decent employment and contribute to the upkeep of the nation through the payment of their taxes.

On Graph 2, the trend of new companies that opened and that closed per year can be appreciated. There is a downward trend for opening companies and upward trend for companies closing which has to be researched.



Graph 2: Number of companies that open and close per year

Source: FUNDEMPRESA

Additionally, the World Bank report, Ease at Doing Business (2020), ranks Bolivia 150th out of 190 countries in the world ranking of countries with conditions for doing business.

Table 3: Ranking of ease of doing business of the World Bank

Rank	Economy	DB score	Rank	Economy	DB score	Rank	Economy	DB score
1	New Zealand	86.8	65	Puerto Rico (U.S.)	70.1	128	Barbados	57.9
2	Singapore	86.2	66	Brunei Darussalam	70.1	129	Ecuador	57.7
3	Hong Kong SAR, China	85.3	67	Colombia	70.1	130	St. Vincent and the Grenadines	57.1
4	Denmark	85.3	68	Oman	70.0	131	Nigeria	56.9
5	Korea, Rep.	84.0	69	Uzbekistan	69.9	132	Niger	56.8
6	United States	84.0	70	Vietnam	69.8	133	Honduras	56.3
7	Georgia	83.7	71	Jamaica	69.7	134	Guyana	55.5
8	United Kingdom	83.5	72	Luxembourg	69.6	135	Belize	55.5
9	Norway	82.6	73	Indonesia	69.6	136	Solomon Islands	55.3
10	Sweden	82.0	74	Costa Rica	69.2	137	Cabo Verde	55.0
11	Lithuania	81.6	75	Jordan	69.0	138	Mozambique	55.0
12	Malaysia	81.5	76	Peru	68.7	139	St. Kitts and Nevis	54.6
13	Mauritius	81.5	77	Qatar	68.7	140	Zimbabwe	54.5
14	Australia	81.2	78	Tunisia	68.7	141	Tanzania	54.5
15	Taiwan, China	80.9	79	Greece	68.4	142	Nicaragua	54.4
16	United Arab Emirates	80.9	80	Kyrgyz Republic	67.8	143	Lebanon	54.3
17	North Macedonia	80.7	81	Mongolia	67.8	144	Cambodia	53.8
18	Estonia	80.6	82	Albania	67.7	145	Palau	53.7
19	Latvia	80.3	83	Kuwait	67.4	146	Grenada	53.4
20	Finland	80.2	84	South Africa	67.0	147	Maldives	53.3
21	Thailand	80.1	85	Zambia	66.9	148	Mali	52.9
22	Germany	79.7	86	Panama	66.6	149	Benin	52.4
23	Canada	79.6	87	Botswana	66.2	150	Bolivia	51.7
24	Ireland	79.6	88	Malta	66.1	151	Burkina Faso	51.4
25	Kazakhstan	79.6	89	Bhutan	66.0	152	Mauritania	51.1
26	Iceland	79.0	90	Bosnia and Herzegovina	65.4	153	Marshall Islands	50.9
27	Austria	78.7	91	El Salvador	65.3	154	Lao PDR	50.8
28	Russian Federation	78.2	92	San Marino	64.2	155	Gambia, The	50.3
29	Japan	78.0	93	St. Lucia	63.7	156	Guinea	49.4
30	Spain	77.9	94	Nepal	63.2	157	Algeria	48.6
31	China	77.9	95	Philippines	62.8	158	Micronesia, Fed. Sts.	48.1

Source: World Bank Report 2020

2.2 Internal Factors That Affect the Ventures

2.2.1 Perseverance of the Entrepreneur

Being persevering means that the entrepreneur must maintain a constant effort in achieving goals; it implies tenacity. Perseverance requires being able to postpone gratification, leave comforts, get out of a comfort zone and implies resilience. Persevering is the opposite of giving up. It implies not being discouraged by difficulties and setbacks and not being frightened by the efforts required. An entrepreneur must demonstrate perseverance and consistency; these two attributes are vital when starting a business anywhere.

According to Duckworth (2007), perseverance refers to “consistency and passion for long-term goals, which implies working hard, being able to face challenges, maintaining effort and interest for years despite failure, adversity and periods of stagnation in the process”.

Table 4: Perseverance of the Entrepreneur

	Count	Percentage %
Very Difficult	8	2,0
Difficult	218	54,0
Ease	112	27,7
Very Easy	66	16,3
Total	404	100,0

Source: Own Elaboration

According to Table 4, some entrepreneurs find it hard to persevere, it’s a challenge very difficult to overcome. Profits are not seen immediately, and some are not willing to wait until business starts showing improvement; 54% finds it’s difficult to keep perseverance and 2% believe it’s very difficult. Entrepreneurs must be aware that it takes time for a business to grow.

2.2.2 Work Ethics

As an entrepreneur seeks to generate new changes within a venture, he knows the goals to be set, but the most fundamental thing depends on a personal code of ethics to direct his conduct and business activities. An entrepreneur who does not have personal or business ethics is dangerous in any business and society. Every ethical entrepreneur must pursue five basic ethic code points:

- Transparency
- Honesty
- Willingness to serve
- Respect
- Loyalty

Additionally, ethics protects the entrepreneur from problems that may arise from situations with taxes, ministries, among others that may complicate the growth of their business.

Table 5: Work Ethics

	Count	Percentage %	Valid Percentage%
Very Difficult	5	1,2	1,2
Difficult	205	50,7	50,7
Easy	154	38,1	38,1
Very Easy	40	9,9	9,9
Total	404	100,0	100,0

Source: Own Elaboration

According to Table 5, 50,7% find it's difficult to keep work ethics and 1,2% believe it's very difficult. Perhaps, it's difficult to keep work ethics in regard to proceeding with the payment of licenses and taxes. The informal economy is very huge Bolivia and formal business loose competitiveness due this huge problem; it makes it harder for formal business to want to keep up with work ethics.

2.2.3 Quality of Human Talent

A good venture requires trained human talent with the appropriate knowledge, abilities, skills, and aptitudes. It is imperative to possess competent human capital and possess the adaptability of a globalized and digital era. It is essential that the entrepreneur has a thorough understanding of the product and market before starting the project. It is necessary that the person who seeks to undertake the project is trained in the field and seeks knowledgeable collaborators with expertise, so that advice is specific about the market and according to the business plan.

Table 6: Finding Quality Human Talent

	Count	Percentage	Valid Percentage
Very Difficult	34	8,4	8,4
Difficult	256	63,4	63,4
Easy	85	21,0	21,0
Very Easy	29	7,2	7,2
Total	404	100,0	100,0

Source: Own Elaboration

On Table 6, it's appreciated that 63,4% of entrepreneurs believe it's difficult to find quality human talent that can aid with the business. Expertise in certain areas is very difficult to obtain because most experienced people also have higher wages for consultancy.

2.2.4 Use of Technology

The entrepreneur must be an ally of technology, especially if it is about reducing costs, getting greater exposure with the public of interest and improving business productivity. This will allow them to be more agile, adaptable and focused on competitive business models.

Table 7: Adapting to Technology According to Age Range

			Very Difficult	Difficult	Easy	Very Easy	Total
¿What's your age range?	18 to 29	Count	3	102	120	44	269
	years of age	Percentage	1,1%	37,9%	44,6%	16,4%	100,0%
	30 to 39	Count	0	35	21	10	66
	years of age	Percentage	0,0%	53,0%	31,8%	15,2%	100,0%
	40 to 49	Count	1	26	13	1	41
	years of age	Percentage	2,4%	63,4%	31,7%	2,4%	100,0%
	50 years of age or older	Count	2	21	3	2	28
		Percentage	7,1%	75,0%	10,7%	7,1%	100,0%
Total		Count	6	184	157	57	404
		Percentage	1,5%	45,5%	38,9%	14,1%	100,0%

Source: Own Elaboration

As it can be appreciated on Table 7, younger entrepreneurs between the ages of 18 to 29 find it easy adapting to the use of technology; 44,6% think it's easy and 16,4% find it very easy. However, older entrepreneurs between the ages of 40 to 49 find it difficult with a 63,4%, and 75% of people 50 years and older find it difficult as well. Age makes a difference when using technology. However, older entrepreneurs must find a way to adjusting to the greater use of technology.

Nowadays, the use of technology is vital for the survival of a business. Transactions are characterized by being more digital as time progresses, and a person seeking to do business must know how to use all these technological tools that will benefit their venture in the short and long term. Older entrepreneurs have to constantly seek short programs or courses where they can learn how to use the new apps.

2.2.5 Market Knowledge

A person seeking to undertake a new project should review the main guidelines to be taken into consideration to prepare a guided business plan; it is evident that prior knowledge is required that market research can reliably provide.

Table 8: Obtaining Market Knowledge According to Age Range

			Very Difficult	Difficult	Easy	Very easy	Total
What is your age range?	18 to 29 years of age	Count	10	156	75	28	269
		Percentage%	3,7%	58,0%	27,9%	10,4%	100,0%
	30 to 39 years of age	Count	5	38	20	3	66
		Percentage%	7,6%	57,6%	30,3%	4,5%	100,0%
	40 to 49 years of age	Count	1	27	11	2	41
		Percentage%	2,4%	65,9%	26,8%	4,9%	100,0%
	50 years of age or older	Count	3	17	6	2	28
		Percentage%	10,7%	60,7%	21,4%	7,1%	100,0%
Total		Count	19	238	112	35	404
		Percentage%	4,7%	58,9%	27,7%	8,7%	100,0%

Source: Own Elaboration

According to Table 8, a large percentage of all age groups finds it's difficult to get information about a particular market. This may be because not a lot of people are aware of how to do market research and there isn't much market research documents to consult in Bolivia.

In this sense, the identification of customers, market segmentation, knowledge about competitors that the company faces are some of the questions that the entrepreneur must answer when preparing for business opening Business planning's aim is not only getting financed; it's also a very needed document for an entrepreneur so he's aware of the market segment, the competitors, marketing strategies, cash flows, and accounting amongst others. Any entrepreneur should start by researching the market prior to starting his venture.

A common reason for not conducting market research when preparing the business plan is to save money and time. The entrepreneur's enthusiasm prevents him from taking the time necessary for formal research and sometimes relies on his personal experience or that of his family and close friends. His opinion about the current market situation may lack objectivity when making decisions leading business subjectively.

The internal factors mentioned above must be considered in detail by those seeking to start a entrepreneurship, leaving none to chance. The consideration of internal factors fully and their implementation will increase the probability of the growth of the venture.

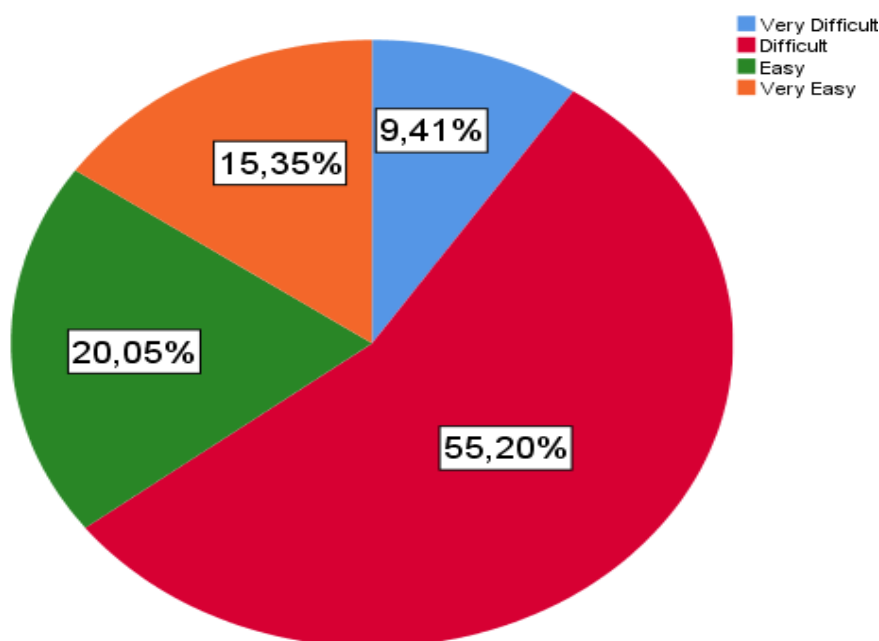
2.3 The Following Are the External Factors That Affect the Ventures:

2.3.1 Financing for Enterprises

One of the great obstacles that the entrepreneur must face to develop a business idea is to find the resources to make it a reality. On many occasions, the entrepreneur does not have sufficient resources to implement it, so he must find someone who believes in him and his venture, provides enough money to make the investment. Many entrepreneurs finance themselves with personal savings, or a loan from family members at the beginning.

Some banks have support plans for entrepreneurs, with lower rates and grace periods to start paying. The requirements range from personal and real estate guarantees to the presentation of joint guarantors that are responsible in the event of non-payment of the debt. Entrepreneurs often face challenging and asymmetric credit information systems. González,L., (2017).

More than 55,20% of the entrepreneur population thinks it's very difficult to get a loan or funds to start a business as it can be seen on Graph 3. A total of 9.41% believe it's very difficult to get funds or a loan. In Bolivia, it is necessary that the venture can be financed quickly and easily by different institutions so these percentages can change. This can also be linked to the fact that many entrepreneurs are not aware of how to do business planning, and a business plan is a must in order to get financed.



Graph 3: Access to Loans and Funds
Source: Own Elaboration

Table 9: Access to Loans and Funds and Age Range

What's your age range?			Very		Easy	Very	
			Difficult	Difficult	Easy	Easy	
18-29 years of age	Count		25	143	56	45	269
	Percentage %		65,8%	64,1%	69,1%	72,6%	66,6%
30-39 years of age	Count		4	37	14	11	66
	Percentage %		10,5%	16,6%	17,3%	17,7%	16,3%
40-49 years of age	Count		7	26	5	3	41
	Percentage %		18,4%	11,7%	6,2%	4,8%	10,1%
50 years of age or older	Count		2	17	6	3	28
	Percentage %		5,3%	7,6%	7,4%	4,8%	6,9%
Total	Count		38	223	81	62	404
	Percentage %		100,0%	100,0%	100,0%	100,0%	100,0%

Source: Own Elaboration

According to Table 9, younger people have more difficulty getting a loan or funds for opening a business. This might be due because they lack the requirements to get funded.

2.3.2 Government Policies- Taxes and Bureaucracy: Overburdening New Companies

The experience of countries that advance and prosper shows that a tax system works better with few taxes, easy to pay and low cost in the fulfillment of fiscal duties. In Bolivia, the tax burden for individuals and companies is excessive, which makes production more expensive and makes companies less competitive and formal business more difficult. Millennium Foundation (2021).

Also dealing with high taxes and tariffs in the country is a heavy burden on entrepreneurs; 69,1% think it's a difficult challenge to overcome and 11,4% think it's very difficult, both making a big percentage of the total.

Table 10: High Taxes and Tariffs

	Count	Percentage
Very Difficult	46	11,4
Difficult	279	69,1
Easy	53	13,1
Very Easy	26	6,4
Total	404	100,0

Source: Own Elaboration

When taxes are too high, companies react by hiding profits, going into the informal economy, or changing their legal form. With the increase in taxes, the collection is higher, but a few years later, the collection is below the initial levels (Casparri, T. 2014). This is because there will be less companies in the legal system or hiding from it. The tax system should allow small companies to grow and get stability and then gradually increase taxes if it's necessary. In Bolivia, there is a General Tax System and a Simplified Tax System. The Simplified Tax System has a list of requirements that must be met, submitted and verified which makes it a little hard to start working with. However it's an improvement compared to other tax systems for companies.

Table 11: Formalities to Open a Business

	Count	Percentage %
Very Difficult	37	9,2
Difficult	261	64,6
Easy	70	17,3
Very Easy	36	8,9
Total	404	100,0

Source: Own Elaboration

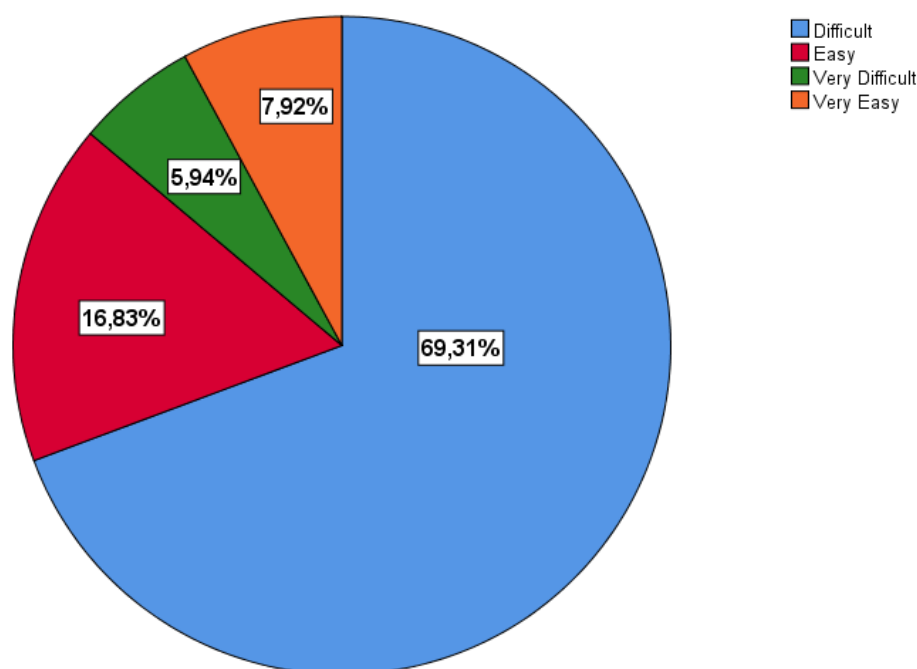
Another point to consider is the formalities for opening a business. These clearly affect the number and size of companies in the market. Complying with the business opening requirements implies additional costs for companies. In Bolivia, many days are required to

open a company and the paperwork is large according to the Ease of Doing Business (2020) report; so it is necessary to reduce the number of days and the paperwork needed so that this time and effort is used in the productivity of the new business; 64.1% think it's difficult to go through the formalities of opening up a business and 9,1 consider this aspect very difficult.

2.3.3 Government Programs for Entrepreneurship

According to Libre Empresa (2020), in Bolivia, government programs for entrepreneurship are scarce. Although there are some programs that promote entrepreneurship through contests for young people, women and others, to provide a prize for the best ideas. However, these programs lack follow-up or continuous support until the venture reaches its growth stage.

Government programs in Bolivia have a boost effect but they are scarce, and the support is insufficient, and it has been established that the relationship between institutions that favor entrepreneurship is still very weak; a pending task is the strengthening of the entrepreneurial ecosystem in the country but after the initial stage.



Graph 4: Access to Courses or Training to Start Entrepreneurship

Source: Own Elaboration

According to Graph 4, 69,31% find it's very difficult to get access to training or to find courses to start a business. More courses should be available for people interested in getting the necessary knowledge before starting with a venture.

2.3.4 Entrepreneurial Education

Francisco Valderrama, Director of the Competitiveness and Entrepreneurship Program of the City Hall in La Paz, Bolivia explains: "The entrepreneur promotes change and the transformation of society. In a certain way, they do not invent like geniuses, scientists, but they transmit knowledge so that it can be applied in daily life, but there are very few entrepreneurship training programs."

The low expansion of businesses is closely related to the abilities of entrepreneurs. In this regard, it is interesting to note that in Bolivia the greatest entrepreneurial dynamism occurs lacking entrepreneurial skills. Education for entrepreneurship in basic training (primary and secondary) in Bolivia is limited. Additionally, not enough attention is paid to entrepreneurship and business development.

Currently there are some institutions that provide training in entrepreneurship such as the comprehensive program, Bridge for Billions allied with the Institute for Women and Business, ACTIVATE Innovation Entrepreneurship Foundation and Emprende Bo. These institutions that provide free training should become more spread in the media so that the entrepreneurship process is structured and guided.

2.3.5 Transfer of Research and Development

In Bolivia, access to new research and technologies is not easy to access and it is not centralized in a single institution. Access to research is scarce because not much research is carried out in the country due to a lack of resources dedicated exclusively to this area. The research that is carried out regarding market studies or other fields of interest are often outdated or have a high cost when obtaining them.

Bolivia, like most Latin American countries, has the lowest rates of investment in research; In this context, a considerable number of investigations are carried out thanks to international cooperation: it is logical to assume that their impact is not always adapted to the needs of these countries.

2.3.6 Internal Market Regulations

In Bolivia, it is not easy to survive in the legally established markets, due to their informality. There are several nations in the fight against this scourge, but according to a report of the International Monetary Fund (IMF) titled Shady Economies Around the World: Bolivia has the largest informal market in the world with a rate of 80%.

Legally established companies are at a disadvantage when faced with informal competition. Market regulations should focus on formalizing most companies, but in a way that is easy for entrepreneurs or business owners. The fear of formality due to its high cost and time has to disappear, but this objective will only be achieved by having a friendly and easy tax system for entrepreneurship. Additionally, the procedures to open a company must be agile and continuously advised.

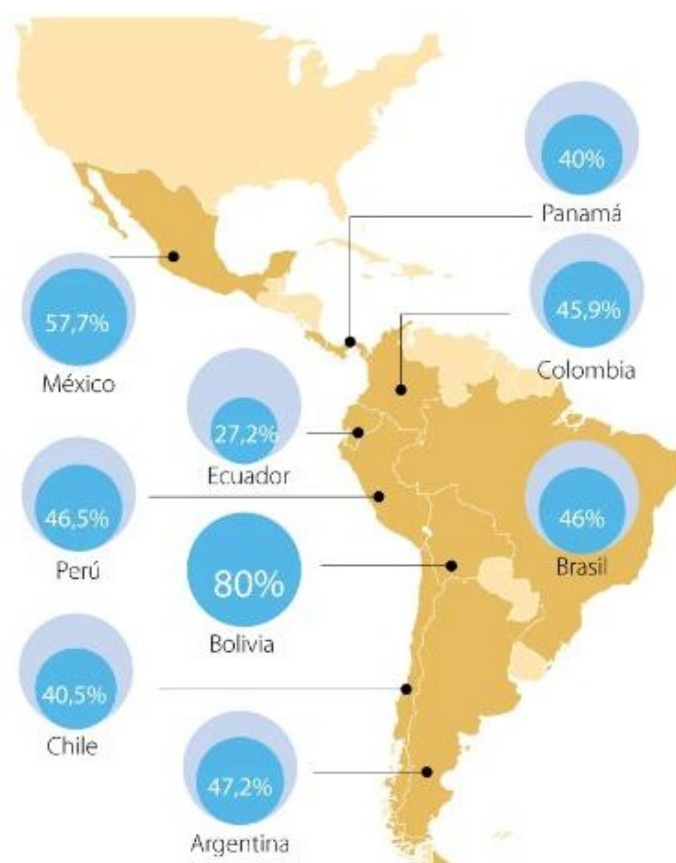


Figure 2: Percentage of market informality in Latin America

Source: FMI, Bloomberg

2.3.7 Physical Infrastructure

In Bolivia there is easy access to basic services and communication services. However, the quality of support provided by physical infrastructure (roads, telecommunications, and other services) to new and growing companies must be investigated. Scarcely 5.5% of the road network is paved, which means that only 31.7% of the Fundamental Network is paved. The remaining 94.5% is made up of 30.8% roads with a gravel surface and 63.7% with a dirt surface. This situation complicates national and international transportation when doing business.

2.3.8 Social and Cultural Norms

It refers to the degree to which social and cultural norms promote or allow actions that point to new business methods or activities, either: valuing individual success achieved through personal effort; enhancing self-sufficiency, personal initiative and the responsibility to manage one's own life; or stimulating business risk taking, creativity and innovation.

In Bolivia, the culture for taking risks is limited and the support of the national culture for creativity, innovation, self-sufficiency, autonomy and personal initiative, and personal success achieved through personal efforts is scarce (Global Entrepreneurship Monitor, 2014).

Entrepreneurship should be rewarded and taken care of, since it's the engine of economic growth.

3. Conclusions

A person looking forward to opening a venture must be aware that it requires effort from his side as well as conditions that the government can create through good economy management. In other words, it's not only up to external conditions to have successful ventures, it's also up to the entrepreneur and how much effort he puts into his idea to become a reality. All this effort must be back up by market research even if it's small accompanied by expertise.

Some people tend to put all the responsibility on the economy wellbeing or the government policies which play a role but are not completely decisive when it comes to success.

With regards to internal factors, entrepreneurs can conduct a meticulous examination to implement the necessary modifications prior to initiating their venture, thereby enabling them to serve as catalysts for the expansion of their enterprise. In order for a venture to achieve success, it is imperative to consider all internal and external factors that can either propel or hinder it.

References

- Barja Daza Grover. (2019). El ecosistema del emprendedor por subsistencia paceño. La Paz: Fundación PIEB.
- Base de datos: FUNDEMPRESA; oficina La Paz; Empresas Vigentes a diciembre del 2021
- Casparri, T. (2014). La curva de Laffer y el Impuesto Inflacionario. Revista de Investigación Matemática Aplicada a la gestión y la economía. Año 1- Vol. 1
- Djankov, S., Ganser, T., McLiesh, C., Ramalho, R., Sheifer, A. (2020). The effect of Corporate Taxes on Investment and Entrepreneurship. American Economic Journal: Macroeconomics
- Duckworth, P., Peterson, C., Mathews, M. (2007) Grit: Perseverance and Passion for Long Term Goals.
- Fundacion Mienio. (2021). Pocos impuestos, sencillos y fáciles de pagar. Informe Nacional de Coyuntura. Coy-473
- Garcia, J., Alvarez, P., Reyna, R. (2007). Característica del Emprendedor de Éxito en la Creación de PYMES españolas. Estudios de Economía Aplicada 25(3), 951-974.
- Giraldo, J. (2019). Bolivia y México, los países con las tasas mas altas de informalidad en América Latina. <https://www.larepublica.co/>
- Global Entrepreneurship Monitor Report. (2014). Escuela de la Producción y la Competitividad, Universidad Católica Boliviana
- Global Entrepreneurship Monitor Report. (2022). Babson College
- González, L. (2017). ¿Cómo financiar un emprendimiento? Universidad Central de Ecuador.
- Kizner, I. (2020). Competencia y Empresarialidad. Unión Editorial.
- Lapi, Sophie. (2021). Nueva educación boliviana. Aprende a ser emprendedor. eabolivia.com Nueva educación boliviana: aprende a ser emprendedor (eabolivia.com)

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***Guidelines for Teaching Thai Literature to Non-native Speakers:
Learning of Thai Lifestyle, Society and Culture Through the Valuable Cultural Heritage***

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Abstract

This research aims to find efficient guidelines for teaching Thai literature to non-native speakers. The research methodology is focus groups, including ten lecturers teaching Thai to non-native learners over five years discussing and sharing ideas of teaching Thai literature to non-native speakers. Research device is five guideline questions discussed in the focus groups. The researchers distill lessons learned from the focus groups and report them as a descriptive analysis. Research findings are as the following. 1) Teaching Thai literature to non-native speakers aims to convey Thai lives; society; and culture to learners, so choosing titles to teach is important. It is suggested that Thai classic literature with interesting plots and characters, like *Sung-tong*; *Pra-ar-pai-ma-nee*; *Khun-Chang-Khun-Pan*, for example are recommended. 2) For efficient learning, multi-media like cartoons; dramas; films; photos; pictures; and so on should be applied. 3) Teaching materials of exercises focusing on enhancing critical thinking about Thai lives in the stories studied are useful and recommended in order to encourage learners to associate the learned contents to their lives, which is the core of learning literature. In conclusion, the three guidelines would effectively guide non-native speakers to comprehend Thai ways of life better.

Keywords: Teaching of Thai Literature, Non-native Speaker, Thai Society and Culture, Cultural Heritage

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Introduction

Literature is valued as a cultural heritage of language and deserved for conservation. Literature conveys thoughts and reflections of lives, societies, traditions, cultures, and beliefs of humanities. It shows civilizations of all nations. Yaemnadda, S.¹ stated that literature expresses mental growth and wisdom of mankind. It represented progresses of nations; only civilized countries possess literature as their treasures.

Teaching of literature is significant. Although, literature does not express concrete benefits abruptly, or could be used directly as a profession; for readers, it reactivates mind; purifies wisdom, and stimulates thoughts and comprehension among humans. This is why all, and any levels, Thai educational institutions provide courses of Thai literature. Chetana N.² stated learning of Thai literature is the essential base of sustaining intelligent and ethical lives. Literary literacy supports desires and wishes of modern humans and is as important as other fields for creating the progressive higher education, namely skills of acquiring academic knowledge and seeking of true elucidation. Satavethin, C.³ explained three purposes of learning literature, including guiding learners to appreciate the aesthetic value; to cultivate and elevate human minds and thoughts; and to comprehend, value and conserve the national culture.

Literary literacy is significant for it is not only to continue the prosperous national culture but also develops ideas and wisdom of learners. It consequently makes learners more apprehend humanity. Moreover, literature study allures learners to acquaint their own cultural heritage which long created and collected by their ancestors. So, reading literature is a study of human lives and indirectly expands worldviews of learners to comprehend the past, present and coming social and cultural problems. The vision of learning of Thai literature, then, aims to guide the learners to appreciate and value Thai language and its literary work, comprising of ancestral wisdom of artistic language that aesthetically inspires lives of learner, cited from Department of Academic Affairs, Ministry of Education.⁴ According to Thai curriculum of basic education, the program of Thai language study, Thai literature is the fifth core course which learning objectives stated that learners should “be able to comprehend; express opinions; evaluate classic literature and literary works; and apply it to daily lives” (Academic Affairs, MOE).⁵

At present, courses of Thai literature are not provided to only Thai learners but are also offered in curriculums for foreign students, by Thai Department of many universities. For example, the faculty of Liberal Arts, majoring in Thai language and culture, of Huachiew Chalermprakiet University offers the B.A. curriculum in Communication in Thai as the Second Language for non-native Thai students. Classic Thai literature and literary works are core courses for students to learn.

¹ Yaemnadda, S. (2001). “Thai literature as part of Thai culture and way of life” in Wichapanya. Bangkok: Thammik Printing Company Limited. p.10.

² Nakawatchara, C. (1995). “Thoughts on teaching and learning literature at the higher education level” in Pathway to a Culture of Criticism. Pages 155.

³ Satavethin, C. (1965). Literature and literary history. Phra Nakhon: Thonburi Suksa. Page 194-195.

⁴ Department of Academic Affairs, Ministry of Education. (2001). Basic Education Curriculum, B.E. 2001. Bangkok : Shipping and Parcels Organization Printing House. Page 1.

⁵ Department of Academic Affairs, Ministry of Education. (2001). Basic Education Curriculum, B.E. 2001. Bangkok : Shipping and Parcels Organization Printing House. Page 19.

Teaching Thai language skills, listening; speaking; reading; and writing, to non-native students are not an easy task; it needs not to mention teaching the classic Thai literature. So, among Thai teachers these following questions are usually occurred. How could non-native learners read classic Thai literature? How could teachers teach students who have no skill of reading Thai? How to teach classic Thai literature to non-native speakers? Is the teaching effective? Could non-native learners appreciate the values of Thai literature, like the native Thai? How to make it possible? What titles of classic Thai literature should be taught to non-native learners? The stated questions make the researchers interested in finding out some guidelines for teaching classic Thai literature to non-native learners, especially for the curriculum of communication in Thai as the second language which learning Thai literature aiming to learn Thai lives, society, and culture through classic Thai literature, the valuable cultural heritage.

Objective

To study guidelines of teaching Thai literature to non-native speakers

Research Methodology

1. Population and Sample Group

Ten Thai teachers with five-year experiences of teaching Thai language are the population and sample group of the research.

2. Data Collection

2.1 Five questions used to ask the focus group include:

- 1) What are aims of teaching Thai literature to non-native speakers?
- 2) What titles of classic Thai literature should the teacher teach non-native speakers? Why?
- 3) What teaching techniques for teaching classic Thai literature should be applies with non-native speakers?
- 4) What teaching materials of classic Thai literature should be used with non-native speakers? How?
- 5) What exercises for teaching classic Thai literature should be created for non-native speakers? How?

2.2 A focus group of ten Thai teachers with five-year experiences of teaching Thai language is formed for discussing about how to teach classic Thai literature to non-native speakers.

3. Research Device

Five questions, stated in 2.1, used in discussions of the focus group.

4. Data Analysis

The researches distill lessons learned from discussions of the focus group and report them as a descriptive analysis.

Research Findings

By distilling lessons learned from the focus group, five techniques of teaching classic Thai literature to non-native learners are as the following.

1) Essences of Teaching Classic Thai Literature for Non-native Learners

The teaching should focus on the knowledge of Thai lives, society, and culture. The wondrous and attracting stories, presenting characters of Thai lives, are medium of teaching. The technique of teaching is the teacher tells contents of the story and explains the social and cultural background of the story as well. By this way of teaching learners would understand the story, its context and achieve the aim of recognizing values of classic Thai literature. For example, the story of *Sung-tong*, an episode of King Yosa-wimon asking a fairy for a child; the background belief of this action is the belief of sacred spirits of Thai people in the past. For the point of King Yosa-wimon had two wives, this refers to Thai social value in the past that distinguishing persons usually had many wives, likewise the Chinese society. In the episode that Pra-Sung was drown, but he was rescued; this relates to Thai belief of good people are always protected. By telling the story and explaining social and cultural background, non-native learners would comprehend the story of classic Thai literature along with understand Thai lives, society, and culture.

2) Selections of Classic Thai Literature Best for Teaching Non-native Learners

Titles of classic Thai literature are various; for the course of *TC4203 Thai Masterpiece in Modern Media*, titles required to learn are not mentioned; teachers are independent to select any titles to teach, yet the aim of learning of Thai lives, society, and culture has still to be achieved. Selected titles of the researchers, for the TC4203 course, include *Sung-tong*; *Pra-ar-pai-ma-nee*; *Khun-Chang-Khun-Pan*; *Ni-ras-phu-khao-tong*; and *Ni-ras-mueang-glang*. These five titles could be sorted into two groups, entertaining stories and Ni-ras, travelling stories. For entertaining stories, there are many attractive factors, including a fun and intricate plot; contents about unpredictable human lives; characters with outstanding characteristics and winding fate. These factors attract learners and they wish to know the end, though they could not read the stories by themselves.

The title that non-native learners most like was *Sung-tong*, since the birth of the protagonist is unusual; the plot is intricate and full of turning points; the contents is impressive, like characters are apart or funny incidents happen. These factors make learners entertained and able to link the studied story to human lives in the society. For *Khun-Chang-Khun-Pan*, non-native learners prefer its unpredictable plot and Thai traditions presented in the whole story, yet dislike the flirtatious characteristic of Khun Pan, the protagonist. For Ni-ras or a travelling story, is interesting for non-native learners because the story refers to places still existed at the present; it also shows Thai ways of life. Moreover, the two selected Ni-ras, trips to Authaya and Rayong composed by Sunthorn Phu, contain morals throughout the story of journeys; the non-native learners could comprehend with less difficulty.

3) Technique of Further Study and Presentation of Other Literary Works

Besides, selected titles chosen by the teacher, additional activity was assigned to non-native learners; this effectively increased understanding of the learners. The activity was to independently study folktales and present them with presentation board to the class. Topics

had to be presented were contents of the story; characteristics of characters; and morals or values gained from the story. This assignment has been practiced for some years; the presentations are increasingly interesting. Folktales presented include *Tao-san-phom*; *Sano-noi-leaun-ngam*; *Utai-tay-wee*; *Pla-boo-tong*; *Krai-tong*; *Chan-ta-korop*; *Pi-kul-tong*, etc. Many tales are from the Jataka, and some are folktales. This activity was fun and supported the learning of classic Thai literature very well.

4) The Use of Multi-media for Teaching Classic Thai Literature for Non-native Learners

Using multi-media supported the teaching of classic Thai literature is very important, since the non-native learners do not read the text by themselves. The stories are retold by the teachers; without supportive multi-media, the teaching would not be interesting. The researchers use multi-media to make the teaching more understandable. For example, the story of *Sung-tong*, when related to the character Chan-tay-wee delivered her baby in the form of a conch shell, a picture of a conch shell was shown. When the protagonist Pra-sung disguised himself in 'Ngor' form, comparative pictures of a handsome man and an ugly dark man are shown. When King Yosa-wimon beheld Ngor, he felt disgusted by the ugly appearance; pictures supported the situation, in power point presentation, would enhance understanding of learners a lot. From this point, learners could learn about Thai value that good looking persons are more welcome, as well.

For Ni-ras stories, maps of the journey are very useful; the route in the story should be plotted on the real map, as the following examples.

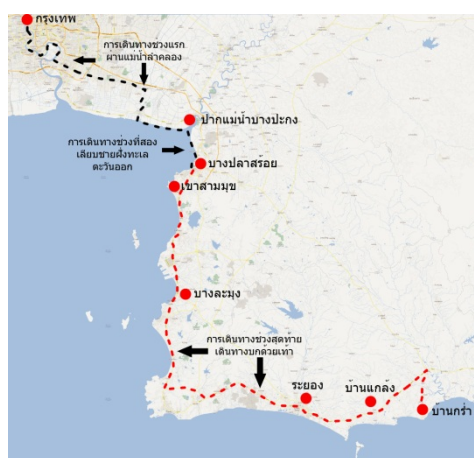


Figure 1: The route in *Ni-ras-mueang-glang*



Figure 2: The route in *Ni-ras-phu-khao-tong*

Besides, adding a cartoon character walking along the route would draw more attention from learners. Moreover, there are many multi-media relating classic Thai literature in the form of cartoons, for example *Sung-tong*; *Pra-ar-pai-ma-nee*, episodes of Sin-sa-mut and Sud-sa-korn; *Khun-Chang-Khun-Pan*, etc. The researchers show the media after the teaching; this enhances comprehension of learners since the cartoon version uses easy language that non-native learners could well understand.

5) Questions Motivating Critical Thinking Skill About Thai lives

After the teaching processes, the researchers have motivated critical thinking skill of learners about classic Thai literature studied by asking questions. For example, the title *Sung-tong*, questions used include: 1) Do students agree with actions of King Yosa-wimon and King Samol or not? Why? 2) If you were Ros-cha-na and acknowledged Pra-sung's true self, would you get married to him in his form of Ngor? Why? 3) In *Sung-tong*, what family problems are there? How should the problems be solved? For the title *Khun-Chang-Khun-Pan*, questions include: 1) Tell an episode you like most; also declare reasons why you like that episode. 2) In your opinion, who cause One-tong's death? Explain and give supportive examples. 3) If you were One-tong, which one would you choose between Khun-Chang and Khun-Pan? Why? 4) What social context do you see in the story of *Khun-Chang-Khun-Pan*? 5) Which traditions in *Khun-Chang-Khun-Pan* you prefer? Why?

These questions motivating critical thinking skill of learners could indicate achievement of the teaching and comprehensions of learners about human lives, as well. The skill of relating lives of characters to real lives of humanity is the main purpose of teaching literature, which is learning of various and complicated lives of characters and then adapt to our own lives.

Conclusion

The main purpose of teaching Thai literature to non-native speakers is sharing knowledge of Thai lives; society; and culture to people interested through entertaining stories and fascinating characters representing Thai lives in classic Thai literature. Teaching techniques making the study interesting are choosing attracting stories; using various multi-media in teaching; showing pictures of the stories; reading and interpreting selected chapters, with understandable words, instead of reading the whole text; using questions focusing on critical thinking skill based on Thai lives in stories studied; and alluding ideas about characters in Thai society to lives of humanity, as the aim of studying literature is comprehending diversities of humanity and adapting the knowledge for real lives. It is proven that classic Thai literature, the valuable cultural heritage, is an efficient and profound resource for studying Thai lives.

Findings Discussion

The non-native speakers could learn classic Thai literature entertainingly and effectively, compared to Thai children learning Thai literature, because they are alienated from the Thai context. This makes them curious to study the unfamiliar and entertaining stories. Moreover, teaching techniques of retelling stories by the teacher accompanying with modern multi-media, no difficult vocabulary like Thai children experienced, make the non-native learners achieve the aims of learning efficiently.

Recommendations

- 1) The teacher, who teaches non-native speakers and at university level, should apply various teaching techniques; cross the language barrier; focus the teaching on entertaining stories and elaborate plots; and convey lives of humanity to learners no matter what nations or languages.
- 2) For further research, reform of teaching classic Thai literature to non-native speakers through e-learning is recommended.

References

- Department of Academic Affairs, Ministry of Education. (2001). Basic Education Curriculum, B.E. 2001. Bangkok : Shipping and Parcels Organization Printing House.
- Kriangkraipet, S. (1973). Language and Literature: Conference on Academic Articles. Bangkok : Academic Literature Association Chulalongkorn University.
- Nakawatchara, C. (1995). “Thoughts on teaching and learning literature at the higher education level” in Pathway to a Culture of Criticism. Pages 155-171.
- Narathipphongpraphan, Prince Krommuen. (1961). Language, literature and science. Bangkok: Progress.
- Satavethin, C. (1965). Literature and literary history. Phra Nakhon: Thonburi Suksa.
- Thepyasuwan, B. (2001). Thai language, a forgotten subject. 4th printing. Bangkok: Bannakit.
- Yaemnadda, S. (2001). “Thai literature as part of Thai culture and way of life” in Wichapanya. Bangkok: Thammik Printing Company Limited. p. 8-16.

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Multi-year Impact of Health Obstructions on COVID-19 Fatalities in Post-coup Myanmar

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Official Conference Proceedings**Abstract**

Myanmar's coup d'état of February 2021 deposed the democratically elected civilian administration with a military dictatorship, destabilizing the region with internal conflict and undue political imprisonments in the backdrop of the COVID-19 pandemic. Consequently, the sudden overthrow of the government revealed the fatal implications of politicizing public health crises and serves as a prominent modern representation of an unjust seizure of power and bio-weaponization. However, existing literature has relied predominantly on qualitative data to describe the unsettling humanitarian crisis in Myanmar, insufficiently highlighting a fraction of a multifaceted campaign against human rights. To address this large gap in understanding, the current work departs from the qualitative focus of existing work, and instead leverages quantitative methodology to draw relationships between socio-political factors, healthcare obstruction (e.g., 'Health Workers Killed', 'Forceful Entry into Health Facility') and multi-year COVID-19 fatalities in Myanmar (2020 - 2023). Multivariate regression analysis results show significant associations between healthcare obstruction, vaccination uptake, testing, new cases, and COVID-19 fatalities, signaling that every additional incident of either healthcare obstruction, new COVID-19 case, or recorded testing incident is related with a staggering increase in COVID-19 fatalities. My findings emphasize the urgent need to address the weaponization of pandemics through political and public health interventions by authoritarian powers. And more, this study highlights yet another large-scale humanitarian crisis in Myanmar and sparks a debate on the fundamental constitution of preventing the effects of disease weaponization and bio-warfare at the national- and international-level.

Keywords: COVID-19, Multivariate Regression, Human Rights, Public Health, Myanmar

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Introduction

As of 1st February 2021, Myanmar was overtaken in a coup d'état, effectively bringing all economic, social, and political reforms to a halt, driving citizens to the streets to organize protests throughout the country in a campaign named the Civil Disobedience Movement ("CDM") (Goldman, 2021). In response, citizens faced direct retaliation from the coup regime in the form of arbitrary detentions, and gunfire, to name a few. In addition, the military also used numerous indirect measures, including prevention of healthcare access to civilians, to curb the number of CDM-ers out on the streets protesting. With COVID-19 as backdrop, compounded by the military's active interference of health workers, the country's pandemic response, along with its healthcare system essentially collapsed in on itself, resulting in rising COVID-19 fatalities (Rocha et al., 2021).

Current papers on the issue depict discouraging perspectives on Myanmar's already bleak healthcare system. Insecurity Insight's July 2023 update on violence against or obstruction of healthcare in Myanmar has highlighted that just between January and August of 2022, the State Administrative Council ("SAC") executed airstrikes and artillery fires targeting healthcare infrastructure (Insecurity Insight, 2023). Previous works have focused on vulnerability to COVID-19 experienced by the internally displaced people ("IDPs") of Myanmar (Sawn Khai, 2022), as well as first-hand testimonies of affected protesters, and frontline medics regarding the issue, in addition to noting the public's significant mistrust of the military rolled out vaccines (Tostevin, 2021). Despite existing investigative analysis in the context of Myanmar, there is limited progress in terms of quantitative research for specific relativity with respect to association between events of obstruction against healthcare and incidences of COVID-19 fatalities.

Through regression analysis, this paper explores the effects of the obstruction of the healthcare system on COVID-19 fatalities, in the context of Myanmar, for the period 2020 to 2023. As the thesis expects to find a positive association between health workers obstructed, and fatalities of COVID-19, this research is expected to provide insight on the implications of conflict amidst a pandemic. It also aims to provide reference on the broader topic of disease weaponization/bio-warfare, in relation to international policy and regulations.

Hypothesis for this paper's research is as follows:

Hypothesis: The variable for incidents of obstruction against healthcare (IDT_total) has a positive lagged association with the variables for COVID-19 fatalities (new_deaths_smoothed) and vaccination uptakes (new_vaccinations_smoothed), as well as new COVID-19 testing (new_tests_smoothed) and cases (new_cases_smoothed), respectively.

Previous papers, inclusive of those from Nisha for Kashmir Valley, India (2020), Ayyash for Palestine (2020) and Qaddour and Fallon for Syria (2021) focused mainly on the qualitative political perspectives of healthcare crises that are closely related enough to grapple with the political landscape of Myanmar and its pandemic crisis. As such, this thesis addressed this research gap in the specific context of Myanmar, using quantitative methods to better understand the impact of the deterioration of the public health system, as well as its severity, in the context of COVID-19.

This thesis explored the data sources and variables used to derive hypotheses, in relation to the background context via initial trends analysis. Research design for this study involved SARIMAX models and OLS multivariate regression on COVID-19 fatalities (*new_deaths_smoothed*), the dependant variable, and incidents of obstruction against healthcare (*IDT_total*), which is the independent variable, along with other selected variables including vaccination uptakes (*new_vaccinations_smoothed*), new COVID-19 testing (*new_tests_smoothed*) and cases (*new_cases_smoothed*). The paper primarily explores the relationship between incidents of obstruction against healthcare, in terms of obstruction against health workers, facilities and supplies, and COVID-19 fatalities in Myanmar for the period 2020 to 2023.

Literature Review

Myanmar's Unanticipated Containment of COVID-19

With Myanmar's historically lacking healthcare infrastructure, the entire health system was expected by many to cripple in the face of COVID-19. As of the most recent data available before the pandemic, Myanmar had a ratio of only 6.7 doctors per 10,000 individuals, along with only 0.71 intensive care unit beds and 0.46 ventilators per 100,000 people (Wittekind, 2021). Despite the grim statistics, Myanmar, which was then under the pre-coup civilian democratic administration, the National League of Democracy ("NLD"), was able to contain the first wave of the pandemic from late March to early August 2020 with just 360 cases and 9 fatalities total for a population of well over 53 million (Deshpande, Thandar Hnin and Traill, 2020). However, the situation shifted in mid-August, marked by the onset of community transmission in Sittwe- pivotal towards Myanmar's fight against COVID-19. This event led to the emergence of a second wave, and by October 2020, the nation witnessed unprecedented monthly peaks in new cases, reaching 39,333, along with a record high in deaths, totaling 927 (Zomber, 2020).

Resultant of experience accumulated from the first and second waves, Myanmar quickly launched an onset of extremely aggressive COVID-19 measures, while the rest of the world debated on the efficacy of masks in public. Myanmar was able to execute a comprehensive public health response, encompassing testing initiatives, quarantine facilities, food and cash assistance programs, and strengthening of healthcare policies, much more rigorously and extensively than initially anticipated. The NLD administration also doubled down an aggressive campaign of containment measures with flights from Wuhan, China completely banned from the getgo by January 2020 (Mann, 2020). An inter-ministerial prevention and coordination committee was also set up immediately to tackle the pandemic, as well as coordinate and implement a cross-sector emergency response plan together with the Ministry of Health and Sports, ("MoHS") publishing regular situation reports for the populace (Wittekind, 2021).

The general sentiment of the public on the government's efforts toward managing COVID-19 was favorable with unanimous agreement of officials doing the best they can given limited resources with many left impressed by the conduct of the inter-ministerial committee, seeing as this was the first time Myanmar faced a national-level health crisis of this magnitude (Wittekind, 2021).

The Military Regime, CDM and the Weaponization of COVID-19

In accompaniment with the rest of the country, Myanmar's health workers joined CDM and took to the streets, striking in defiance of the coup (Goldman, 2021). Just days following the takeover, more than 70 hospitals shut down with a growing online movement proclaiming the junta to be illegitimate (Lin Kyaw and Heijmans, 2021). In addition to CDM, health workers banded together to launch a Red Ribbon Campaign (Myanmar Mix, 2021) that by March, it was reported that a third of public hospitals had closed down due to lack of personnel with more than 50,000 out of 110,000 employees of MoHS opting to join CDM (Wittekind, 2021). The nationwide striking of health workers collapsed Myanmar's testing infrastructure, where just a week before the coup, there were 17,000 reported tests per day on average with this figure plummeting to below 1,200 tests a day on average just a week following the coup (Reuters, 2021) - note that this was happening parallel to ongoing protests with no consideration for distancing measures, as the entire nation collectively shifted its focus from the COVID-19 pandemic to overthrowing the newly self-initiated military dictator. Not only did treatment and infrastructure collapse, the junta also played an active part in hindering health responses through attacks against both health workers and health infrastructure (Insecurity Insight, 2023; Krishna and Howard, 2021). The regime responded to the striking population of health workers with great force and they were declared in violation of their professional oaths with the arrested being charged under the Natural Disaster Management Law and section 188 of Myanmar's Penal Code, which carried up to two years of sentence (Wittekind, 2021).

It was under NLD that Myanmar was able to secure 1.5 million doses of the Covishield vaccination from India with another 30 million already ordered, just a week before the military takeover (Naing, 2021). However, rather than the initially projected 30 million doses of Covishield, Myanmar was only able to secure 3.5 million. Further, according to data provided by the junta, as of April 2021, only 1.54 million individuals received their first vaccine doses with just 340,000 individuals completing their second dose within the recommended four-week period (Myanmar Now, 2021). It was also reported that the regime used vaccination to recruit more civil servants to replace the CDM-ers (Wittekind, 2021) as citizens faced the choice of protection against a global pandemic by taking a second shot or protection of their ideologies against a dictatorship by refusing it. Another cause for controversy was that after initial shipment of Covishield from India, the regime started sourcing vaccinations from China instead, which alarmed locals in a country with extremely strong anti-China sentiments induced by Beijing's self-interest fuelled conduct in perpetuating the Myanmar military's takeover (Myanmar Now, 2021). Doubts on the effectiveness of Sinopharm were further apprehended as it was proven to be 78% effective for those aged between 18 and 59 with actual effectiveness ranging from 50% to 84% depending on the country, as opposed to the Pfizer and Moderna vaccines which have been found to be more than 90% effective (Watanabe, 2021).

Amidst the rising urgency of the pandemic and the crippling healthcare system, Myanmar's military regime also put effort into blocking international assistance and humanitarian aid. The regime imposed "travel restrictions on humanitarian workers, blocked access roads and aid convoys, destroyed non-military supplies, attacked aid workers, and shut down telecommunications services" (Human Rights Watch, 2021). This obstruction of relief operations made for extremely limited access to said efforts due to the SAC's bureaucratic impediments, which resulted in the UN and other aid organizations only having at their

disposal 18% of the US\$109 million that was requested in response to the post-coup humanitarian crisis (Human Rights Watch, 2021).

Methodology

Data Collection and Variables

The study utilized a retrospective cohort design with secondary data from Insecurity Insight (2023) and Our World in Data (2023) for variables related to healthcare obstruction incidents, vaccination rates, COVID-19 fatalities, new cases, and testing from 2020 to 2023. These datasets are publicly available, regularly updated, and sourced from various channels including official sources, press releases, global media, lab reports, and confidential data from aid agencies.

Data on incidents of healthcare obstruction was sourced from Insecurity Insight's dataset (2023) on attacks against Myanmar's health system, named "2016-2023 MMR Attacks on healthcare Incident Data." This dataset provided detailed information on the mode of obstruction, including arrest, assault, forceful entry of facilities, and more, with monthly updates. Information on Myanmar's vaccine uptake and other COVID-19 related data, such as fatalities, was extracted from the Our World in Data (2020) database, which covers COVID-19 related data globally, including test administration, hospitalization, population density, and vaccinations.

The thesis reviewed data from 2020 to 2023, capturing pre- and post-coup periods. It analysed COVID-19 fatalities (*new_deaths_smoothed*), the dependant variable, and incidents of obstruction against healthcare (*IDT_total*), the independent variable, measured in event units. The regression models included variables for vaccination uptakes (*new_vaccinations_smoothed*), new COVID testing (*new_testings_smoothed*), and new cases (*new_cases_smoothed*), all tracked at corresponding dates in the dataset.

Research Design and Preliminary Analysis

After obtaining the datasets for analysis, both the incident data (Insecurity Insight, 2023) and COVID-19 data (Our World in Data, 2020) were reviewed. The 'date' column was transformed to datetime for merging the datasets and the COVID-19 data specific to Myanmar was filtered and extracted by location before processing.

After merging the datasets, incidents of healthcare obstruction were isolated into a dictionary named 'IDT', which included various types of incidents. A new column 'IDT_total' was created to group all obstruction incidents under a single category. Variables for 'new_cases_smoothed', 'new_deaths_smoothed', 'new_tests_smoothed', 'positive_rate', and 'new_vaccinations_smoothed', along with the newly calculated 'IDT_total' were chosen as key features for analysis with all other variables deleted from the merged dataset. Trend analysis on said key variables were visualized as follows:

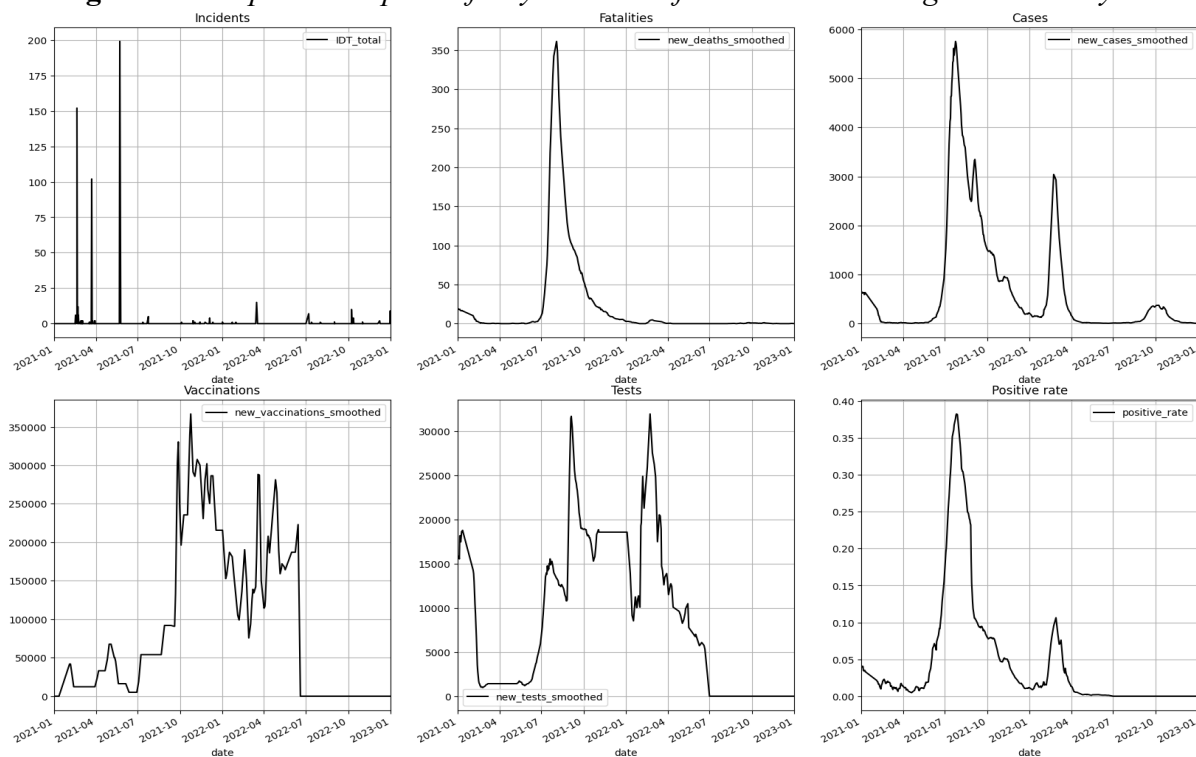
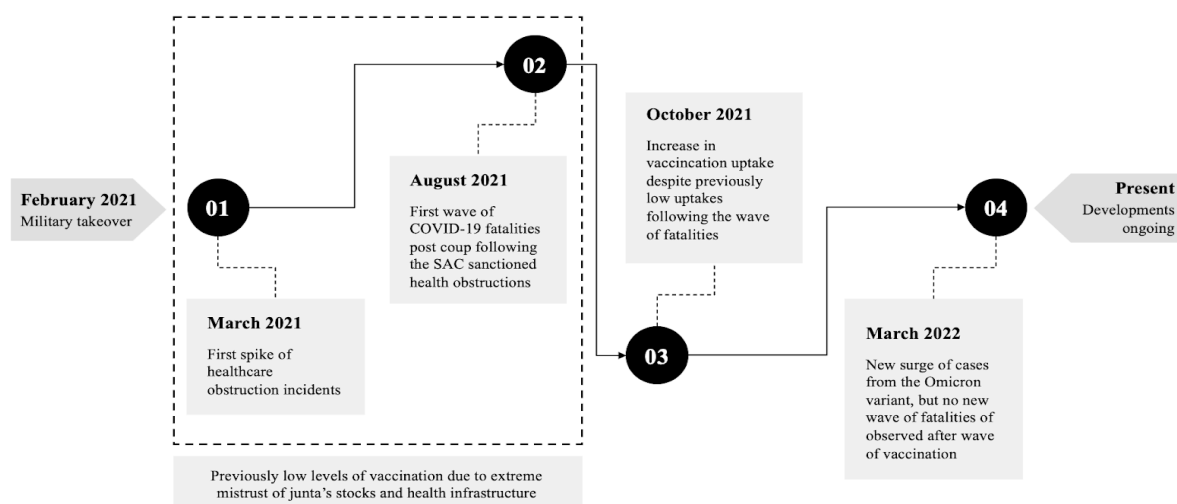
Figure 1: Composite Subplots of Key Variables for Multivariate Regression Analysis

Figure 1 illustrates a notable surge in incidents of obstruction (*IDT_total*) immediately following the February 2021 coup, with a significant spike starting from early March 2021. This surge correlates with a stark increase in deaths observed (*new_deaths_smoothed*) around August 2021, indicating the impact of obstruction incidents (*IDT_total*) on fatalities (*new_deaths_smoothed*) and new cases (*new_cases_smoothed*). The emergence of the Omicron subvariant (Cecilia, 2022) in March 2022 led to another spike in cases (*new_cases_smoothed*), though this did not result in a corresponding increase in COVID-19 fatalities. Instead, there was a notable rise in new vaccines administered (*new_vaccinations_smoothed*) starting from October 2021, shortly after the initial wave of fatalities experienced in Myanmar. This increase in vaccinations followed a period of low vaccine uptake due to widespread distrust in the healthcare infrastructure established by the military regime (Myanmar Now, 2021).

Figure 2: Timeline Depiction of Post-Coup Impact on Health Obstruction and Public Sentiment



Results and Discussions

Relation Between Incidents of Healthcare Obstruction and COVID Fatalities

Multivariate and autoregressive regression models were used to explore the hypothesis on healthcare obstruction incidents relative to COVID-19 fatalities incidents. The models considered vaccination rates, new testing, and new cases as covariates to ensure statistical significance. The first OLS model used COVID-19 fatalities (*new_deaths_smoothed*) as the dependent variable and total incidents of obstruction (*IDT_total*) as the independent variable.

The outcome from Model I made me consider temporal shifts due to the possibility of lagged results from healthcare obstruction, since R-Squared amounted only to 0.001, indicating little outcome reliability. The model’s outcome, wherein for every new incident of health obstruction perpetrated (*IDT_total*) there would be 0.1508 less COVID-19 fatalities (*new_deaths_smoothed*), was also proven to be statistically non-significant with its p-value at 0.511.

Table 1: Testing for Model I’s Heteroskedasticity and Autocorrelation

Testing for heteroskedasticity		Testing for autocorrelation	
Breusch-Pagan	0.17219416	Durbin-Watson	0.00546770
p-value	0.67816911	LM test	837.720906
f-value	0.17182029	p-value	3.39696e-184

From results depicted in Table 1, the p-value of the Breusch-Pagan statistic or the ‘BP’ value for Model I, amounting to 0.678, was indicative that I’d failed to reject the null hypothesis and that there was no strong evidence of heteroscedasticity to be found in the Model. In order to further debate on said model’s reliability, Model I’s residuals were plotted with the Durbin-Watson and Ljung-Box (*acorr_breusch_godfrey*) tests conducted to test for autocorrelation, as shown in Table 1. Both results from the Durbin-Watson and the LM test suggested evidence of strong autocorrelation in the residuals of Model I with the Durbin-Watson statistic being so close to 0 at 0.005, as well as the p-value from the LM test conducted being close to 0 at 3.397e-184, indicating statistically significant autocorrelation.

Accounting for this autocorrelation, autoregressive ARIMA models were considered as a next step.

Via the auto_arma function, the ARIMA order for the best fit model using residuals from Model I was established at ARIMA(order=(4, 1, 5), scoring_args={}, suppress_warnings=True, with_intercept=False), suggesting an autoregressive order of 4, differencing order of 1 and moving average order of 5 with no additional scoring arguments, warnings suppression, or intercept term. Using this ARIMA order, a series of SARIMAX models for Seasonal AutoRegressive Integrated Moving Average with eXogenous variables were performed using select key variables identified to produce the models in Table 2 as follows.

Table 2: Relation between Incidents of Healthcare Obstruction and COVID Fatalities (2020-23)

	COVID-19 fatalities			
	Model I	SARIMAX (4, 1, 5)		
		Model II	Model III	Model IV
Incidents of health obstruction	-0.1508 (0.299)	0.0029 (0.030)	2.494e-18*** (1.03e-24)	1.431e-17*** (3.93e-24)
Vaccination uptakes			-1.245e-19*** (2.81e-20)	-5.527e-19*** (1.27e-19)
New COVID cases				1.301e-17*** (4.07e-22)
New COVID testing				3.253e-18*** (5.03e-21)
ar.L1		0.5039*** (0.021)	0.3220*** (4.32e-22)	-0 (1.65e-22)
ar.L2		0.5004*** (0.017)	0.5058*** (3.24e-22)	-0 (1.22e-34)
ar.L3		0.6139*** (0.015)	0.3156*** (3.23e-22)	-0 (1.65e-32)
ar.L4		-0.6861*** (0.022)	-0.3179*** (2.59e-22)	-0 (1.12e-32)
ma.L1		-0.4055*** (0.025)	-0.1087*** (2.51e-22)	-0 (1.65e-22)
ma.L2		-0.3870*** (0.023)	-0.4090*** (1.48e-22)	-0 (3.25e-38)
ma.L3		-0.7299*** (0.016)	-0.3227*** (1.63e-22)	-0 (4.43e-39)
ma.L4		0.6841*** (0.018)	0.2096*** (1.15e-22)	-0 (4.45e-40)
ma.L5		0.1906*** (0.015)	0.1159*** (2.35e-22)	-0 (7.22e-39)
sigma2		9.3504*** (0.128)	1e-10*** (6.84e-11)	1e-10 (6.84e-11)
Constant	22.9781*** (2.150)			
		Variance		
R-squared	0.001			
Adjusted R-Squared	-0.001			

Model Likelihood				
Log Likelihood	-4671.7	-2134.646	8898.629	8898.949
Information Criterion				
AIC	9347.0	4291.291	-17771.258	-17767.898
BIC	9357.0	4343.372	-17709.708	-17696.879
Residual Analysis				
Ljung-Box Test		0.15	183.36	12.85
# of observations		842	842	842

Note. Standard errors are in parentheses. * p<0.05; ** p<0.01; *** p<0.001

Table 3: VIF Value Compilation for Models with Indication of Multicollinearity from Table 2

	Variance Inflation Factors (VIF)		
	Model II	Model III	Model IV
Incidents of health obstruction	9.29e-08	3.27e-36	2.05e-34
Vaccination uptakes		8.16e-39	3.05e-37
New COVID cases			1.69e-34
New COVID testing			1.06e-35
ar.L1	2.82e-03	5.77e-02	0.00e+00
ar.L2	2.79e-03	1.56e-01	0.00e+00
ar.L3	4.20e-03	5.53e-02	0.00e+00
ar.L4	5.25e-03	5.61e-02	0.00e+00
ma.L1	1.83e-03	6.25e-03	0.00e+00
ma.L2	1.66e-03	9.65e-02	0.00e+00
ma.L3	5.95e-03	5.80e-02	0.00e+00
ma.L4	5.22e-03	2.37e-02	0.00e+00
ma.L5	4.03e-04	7.12e-03	0.00e+00
sigma2	3.23e+01	5.26e-21	1.00e-20

Based on log likelihood alone, Model IV which include exogenous regressors on total incidents of healthcare obstructions (*IDT_total*), vaccine uptakes (*new_vaccinations_smoothed*), new COVID-19 cases (*new_cases_smoothed*) and testing (*new_tests_smoothed*) under SARIMAX (4, 1, 5) possessed the largest value, indicating best fit to the data. However, it was Model III which possessed the lowest AIC and BIC values, which provided the context of Model III actually having a better trade-off between model fit and complexity. Given that the differences in AIC and BIC between Models III and IV were calculated to be less than 1%, at 0.02% and 0.07%, respectively, it was determined that the impact of one model having better trade-off than the other was to be considered negligible. Value of the Ljung-Box test was used to assess the autocorrelation of residuals with Models III and IV having the values 183.36 and 12.85, respectively. With such a difference for this parameter, it was decided that Model IV would provide the best outcomes for interpretation with the most reliable SARIMAX model with the least amount of white noise to be considered. Since Model IV also had strong numerical indications of multicollinearity as identified from initial output, Variance Inflation Factors (“VIF”) were also accounted for. $VIF = 1 / (1 - R^2)$; where R^2 was the determination coefficient obtained when the predictor variable in question was regressed against all other predictor variables in each model to determine variance of estimated regression coefficients and if they were increased due to multicollinearity. A high VIF ($VIF \geq 5$) was indicative of high degrees of multicollinearity, which could make distinguishing the independent effects of correlated variables challenging, since this implied that the variances of estimated beta values were significantly inflated due

to correlation with other variables. However, VIF values below 5 or above 1 ($1 < \text{VIF} < 5$), indicated moderate multicollinearity, which would mean some correlation, although not problematic enough to compromise interpretation reliability and no multicollinearity, meaning no correlation between the respective variables. With the VIF values of all features from Model IV being close to 0, we were able to rule out the chances of multicollinearity from the model, which was expected to have no impact on the reliability of outcome interpretation.

Hence, per results from Model IV, this paper arrived at the interpretation that *for every additional incident of healthcare obstruction, unit of new COVID-19 cases and unit of new testing recorded, there was an extremely high statistically significant pattern of increase in new COVID-19 fatalities* ($\beta = 1.431e-17^{***}$, $1.301e-17^{***}$ and $3.253e-18^{***}$) *on average, while with every new unit of vaccine administered, there was an extremely high statistically significant pattern of decrease in new COVID-19 fatalities* ($\beta = -5.527e-19^{***}$) *on average*. Model IV also indicated that neither past values or past forecast error terms of our dependent variable (*new_deaths_smoothed*) had any statistically significant impact on current values of COVID-19 fatalities.

Relation Between Incidents of Healthcare Obstruction and COVID Fatalities Based on Nature of Obstruction

Branching out from my initial hypothesis, regarding the relation between incidents of obstruction and COVID-19 fatalities throughout the progression of model construction, data on incidents of obstruction was isolated into separate buckets for human-related incidents and infrastructure-related incidents of healthcare obstruction.

Human-related incidents of obstruction (*IDT_human*) included figures on 'Health Workers Killed', 'Health Workers Kidnapped', 'Health Workers Arrested', 'Health Workers Injured', 'Known Kidnapping/Arrest Outcome', 'Health Workers Threatened' and 'Health Workers Sexually Assaulted', while infrastructure-related incidents of obstruction (*IDT_infra*) pertained to 'Number of Attacks on Health Facilities Reporting Destruction', 'Number of Attacks on Health Facilities Reporting Damaged', 'Forceful Entry into Health Facility', 'Occupation of Health Facility', 'Health Transportation Destroyed', 'Health Transportation Damaged', 'Health Transportation Stolen/Hijacked' and 'Looting/Theft/Robbery/Burglary of Health Supplies'.

After isolating the regressors, *auto_arima* was performed for human-related incidents of healthcare obstruction, establishing *ARIMA*(order=(4, 1, 5), *scoring_args*={}, *suppress_warnings*=True, *with_intercept*=False), which was the same order as established from previous models with our primary exogenous variable being *IDT_total*. On the other hand, infrastructure-related incidents surrounding the key variable, *IDT_infra*, established the *ARIMA*(order=(5, 1, 2), *scoring_args*={}, *suppress_warnings*=True, *with_intercept*=False), which stipulated an autoregressive order of 5, differencing order of 1 and moving average order of 2 with no additional scoring arguments, warnings suppression or intercept term.

Table 4: *Relation between Incidents of Human-Related Healthcare Obstruction and COVID Fatalities (2020-23)*

Human-Related Incidents of Healthcare Obstruction			
SARIMAX (4, 1, 5)			
	Model A1	Model A2	Model A3
Incidents of health obstruction	0.0029 (0.030)	2.494e-18*** (1.03e-24)	1.431e-17*** (3.93e-24)
Vaccination uptakes		-1.245e-19*** (2.81e-20)	-5.527e-19*** (1.27e-19)
New COVID cases			1.301e-17*** (4.07e-22)
New COVID testing			3.253e-18*** (5.03e-21)
ar.L1	0.5039*** (0.021)	0.3220*** (4.32e-22)	-0 (1.65e-22)
ar.L2	0.5004*** (0.017)	0.5058*** (3.24e-22)	-0 (1.22e-34)
ar.L3	0.6139*** (0.015)	0.3156*** (3.23e-22)	-0 (1.65e-32)
ar.L4	-0.6861*** (0.022)	-0.3179*** (2.59e-22)	-0 (1.12e-32)
ma.L1	-0.4055*** (0.025)	-0.1087*** (2.51e-22)	-0 (1.65e-22)
ma.L2	-0.3870*** (0.023)	-0.4090*** (1.48e-22)	-0 (3.25e-38)
ma.L3	-0.7299*** (0.016)	-0.3227*** (1.63e-22)	-0 (4.43e-39)
ma.L4	0.6841*** (0.018)	0.2096*** (1.15e-22)	-0 (4.45e-40)
ma.L5	0.1906*** (0.015)	0.1159*** (2.35e-22)	-0 (7.22e-39)
sigma2	9.3504*** (0.128)	1e-10*** (6.84e-11)	1e-10 (6.84e-11)
Model Likelihood			
Log Likelihood	-2134.646	8898.629	8898.949
Information Criterion			
AIC	4291.291	-17771.258	-17767.898
BIC	4343.372	-17709.708	-17696.879
Residual Analysis			
Ljung-Box Test	0.15	183.36	12.85
# of observations	842	842	842

Note. Standard errors are in parentheses. * p<0.05; ** p<0.01; *** p<0.001

Table 5: *VIF Value Compilation for Models with Indication of Multicollinearity from Table 4*

	Variance Inflation Factors (VIF)		
	Model A1	Model A2	Model A3
Incidents of health obstruction	9.29e-08	3.27e-36	2.05e-34
Vaccination uptakes		8.16e-39	3.05e-37
New COVID cases			1.69e-34
New COVID testing			1.06E-35
ar.L1	2.82e-03	5.77e-02	0.00e+00
ar.L2	2.79e-03	1.56e-01	0.00e+00
ar.L3	4.20e-03	5.53e-02	0.00e+00
ar.L4	5.25e-03	5.61e-02	0.00e+00
ma.L1	1.83e-03	6.25e-03	0.00e+00
ma.L2	1.66e-03	9.65e-02	0.00e+00
ma.L3	5.95e-03	5.80e-02	0.00e+00
ma.L4	5.22e-03	2.37e-02	0.00e+00
ma.L5	4.03e-04	7.12e-03	0.00e+00
sigma2	3.23e+01	5.26e-21	1.00e-20

Table 6: *Relation between Incidents of Infrastructure-Related Healthcare Obstruction and COVID Fatalities (2020-23)*

	Infrastructure-Related Incidents of Healthcare Obstruction SARIMAX (5, 1, 2)		
	Model B1	Model B2	Model B3
Incidents of health obstruction	-2.362e-08 (2.34e-08)	-5.294e-23 (0)	4.698e-21 (6.73e-06)
Vaccination uptakes		3.388e-21 (9.76e-10)	-3.74e-19 (0.002)
New COVID cases			-6.765e-17 (8.02e-06)
New COVID testing			2.06e-18 (4.64e-05)
ar.L1	0.1273*** (0.041)	0.1122*** (4.58e-10)	-0 (1.95e-09)
ar.L2	0.2071*** (0.038)	0.3848*** (3.1e-10)	-0 (6.13e-08)
ar.L3	0.1153*** (0.016)	0.0701*** (3.33e-10)	-0 (4.84e-09)
ar.L4	0.0421** (0.015)	-0.0025*** (2.83e-10)	-0 (5.2e-08)
ar.L5	0.3451*** (0.013)	0.3235*** (4.24e-10)	0 (6.65e-09)
ma.L1	0.014 (0.041)	-0.0032*** (2.03e-10)	-0.0695*** (1.21e-07)
ma.L2	-0.0524 (0.036)	-0.2201*** (3.61e-11)	-0.8661*** (2.67e-07)
sigma2	9.6391*** (0.103)	1e-10 (6.85e-11)	1e-10 (7.32e-11)
Model Likelihood			
Log Likelihood	-2177.151	8898.567	8907.773
Information Criterion			
AIC	4372.301	-17775.134	-17789.546
BIC	4414.913	-17723.054	-17727.996
Residual Analysis			
Ljung-Box Test	0.00	10.53	291.43
# of observations	842	842	842

Note. Standard errors are in parentheses. * p<0.05; ** p<0.01; *** p<0.001

Table 7: VIF Value Compilation for Models with Indication of Multicollinearity from Table 6

	Variance Inflation Factors (VIF)		
	Model A1	Model A2	Model A3
Incidents of health obstruction	5.99e-18	2.13e-45	1.26e-41
Vaccination uptakes		8.71e-42	7.97e-38
New COVID cases			2.61e-33
New COVID testing			2.42e-36
ar.L1	1.74e-04	9.64e-03	0.00e+00
ar.L2	4.61e-04	1.27e-01	0.00e+00
ar.L3	1.43e-04	3.74e-03	0.00e+00
ar.L4	1.90e-05	4.82e-06	0.00e+00
ar.L5	1.28e-03	8.62e-02	0.00e+00
ma.L1	2.10e-06	7.55e-06	2.76e-03
ma.L2	2.95e-05	3.81e-02	7.46e-01
sigma2	4.74e+02	7.58e-21	5.70e-21

Since none of the coefficients in Model B1 to B3, regressed against infrastructure-related incidents of healthcare obstruction (*IDT_infra*) depicted any statistical significance for our selected key variables, it was established that COVID-19 fatalities driven by total incidents of health obstruction were mostly propelled by human-related incidents of healthcare obstruction. In fact, the coefficients, and related statistics between Models II to IV and Models A1 to A3 were found to be near identical. As such, with Model A3 possessing the highest log likelihood value, as well as a lower Ljung-Box statistic with similar AIC and BIC by an almost negligible margin, between Models A2 and A3, it was determined that Model A3 was best representative of the relation between COVID-19 fatalities and human-related incidents of healthcare obstruction. Further, with VIF values of all predictors from the model being close to 0, we were able to rule chances of multicollinearity out of the model - expected to have no impact on the reliability of outcome interpretation.

Given this, Model A3 arrived at the same conclusions as Model IV, wherein with every additional incident of healthcare obstruction, unit of new COVID-19 case and unit of new testing recorded, there was an extremely high statistically significant pattern of increase in new COVID-19 fatalities ($\beta = 1.431e-17^{***}$, $1.301e-17^{***}$ and $3.253e-18^{***}$) on average, while with every new unit of vaccine administered, there was an extremely high statistically significant pattern of decrease in new COVID-19 fatalities ($\beta = -5.527e-19^{***}$) on average, along with proof that neither past values nor past forecast error terms of our dependent variable (*new_deaths_smoothed*) had any statistically significant impact on current values of COVID-19 fatalities.

With respect to relation between COVID-19 fatalities and infrastructure-related incidents of healthcare obstruction, all models conducted in exploring this had consistent outcomes wherein there was no association to be found between said values, which reaffirmed that the COVID-19 fatalities were mostly, if not solely, contributed by human-related incidents of obstruction. In terms of which model had the most reliable outcome, among Models B1 to B3, Model B3 ran using SARIMAX (5, 1, 2) determined via *auto_arima*, possessed both the highest value of log likelihood, as well as the lowest values of AIC and BIC, which denoted that Model B3 had the best fit data, as well as the best trade-off between data fit and model complexity. However, out of the three options, it also possessed the highest Ljung-Box test statistic, which implied that Model B3 had strong indications of autocorrelation. Regardless,

this paper determined Model B3 to be the most reliable in the interpretability of findings on account of prioritizing model fit and complexity as opposed to autocorrelation of residuals.

Conclusion

When Myanmar descended into dictatorship in February 2021, the military doubled down on its crackdown, with COVID-19 as backdrop, attacking the very core of an already crippling health system, resultantly overrunning mortuaries (Reuters, 2021), in order to distract the public from taking to the streets using a public health crisis. Implications of COVID-19, compounded by the striking CDM health workers, along with the military's active interference of working health personnel, the country's pandemic response, along with its healthcare infrastructure systematically collapsed in on itself, resulting in rising COVID-19 fatalities (Rocha et al., 2021). This paper explored the impacts that obstructing the healthcare system had on COVID-19 fatalities, in the context of Myanmar, for the period 2020-2023.

Hypothesis: *The variable for incidents of obstruction against healthcare (IDT_total) has a positive lagged association with the variables for COVID-19 fatalities (new_deaths_smoothed) and vaccination uptakes (new_vaccinations_smoothed), as well as new COVID testing (new_tests_smoothed) and cases (new_cases_smoothed), respectively.*

The study confirmed a direct correlation between healthcare obstruction incidents and COVID-19 fatalities, with each obstructive event contributing to an increase in the death toll. It was noted additionally that human-related obstruction events had a more significant impact on COVID-19 fatalities and new case reporting, while infrastructure-related incidents had minimal influence on these variables.

Incidents of Healthcare Obstruction and COVID-19 Fatalities

The hypothesis of this research indicated that the dependent variable for COVID-19 fatalities had positive lagged association with the variables for incidents of healthcare obstruction, as well as new COVID testing and cases, whereas a negative lagged association was observed with uptake of vaccinations relative to new fatalities. This was proven to be true as we were able to establish relation between incidents of healthcare obstruction and COVID-19 fatalities, wherein *for every new incident of healthcare obstruction, new COVID-19 case and new testing, there were 1.431e-17, 1.301e-17 and 3.253e-18 more COVID-19 fatalities, on average, respectively, with this outcome having extremely high statistical significance (p-value = 0.000).* The research was able to provide further insight that *for every new incident of healthcare obstruction that occurs, there was also a -5.527e-19 decrease in new vaccines administered, on average, with said insight also being found to be of extremely high statistical significance (p-value = 0.000).*

Incidents of Healthcare Obstruction and COVID-19 Fatalities Based on Nature of Obstruction

Branching from analysing incidents of healthcare obstruction as a whole, under the collective banner of exploring our first hypothesis, this study isolated the data into two buckets, under human- and infrastructure-related events of health obstruction. It was found that much of the impact on fatalities observed earlier in the analysis, as well as the new cases recorded, were driven by human-related incidents of obstruction as all outcomes remained constant among the models featuring total and human-related incidents, respectively, whereas infrastructure-

related incidents did not appear to have any implications toward any of the featured exogenous variables.

The data on healthcare obstruction and COVID-related information may not capture the full extent of events due to under-reporting and challenges in data collection during ongoing conflict. However, this research serves as a foundation for future studies and informs international policies on disease weaponization and bio-warfare regulation.

References

- Ayyash, M.M. (2020). A Pandemic in an Age of Omnipresent Sovereign Power: The Plight of Palestine. *Canadian Journal of Cultural Studies* 41(1), 123–131.
- Cecelia, S.-S. (2022). New Omicron Subvariant Spreading in U.S. as Coronavirus Cases Increase. *US News*. <https://www.usnews.com/news/national-news/articles/2022-05-02/new-omicron-subvariant-ba-2-12-1-spreading-in-u-s-as-coronavirus-cases-increase>.
- Deshpande, A., Thandar Hnin, K. and Traill, T. (2020). Myanmar's response to the COVID-19 pandemic. *Brookings*. <https://www.brookings.edu/articles/myanmars-response-to-the-covid-19-pandemic/>
- Goldman, R. (2021). Myanmar's Protests, Explained. *New York Times*. www.nytimes.com/article/myanmar-news-protests-coup.html
- Human Rights Watch. (2021). Myanmar: Junta Blocks Lifesaving Aid. *Human Rights Watch*. <https://www.hrw.org/news/2021/12/13/myanmar-junta-blocks-lifesaving-aid>
- Insecurity Insight. (2023). 2016-2023 MMR Attacks on healthcare Incident Data, v. July 2023. *Geneva, Switzerland: Insecurity Insight*. <https://data.humdata.org/dataset/myanmar-attacks-on-aid-operations-education-health-and-protection>
- Insecurity Insight. (n.d.). The SiND. <https://insecurityinsight.org/services/the-data-base>
- Lin Kyaw, K. and Heijmans, P. (2021). Myanmar's Doctors Vow to Shut Hospitals in Anti-Coup Protests. *Bloomberg.com*. <https://www.bloomberg.com/news/articles/2021-02-03/myanmar-anti-coup-protesters-call-to-shut-hospitals-bang-pots#xj4y7vzkg>
- Mann, Z. (2020). Wuhan Flights to Myanmar Stopped Amid Coronavirus Outbreak. *The Irrawaddy*. <https://www.irrawaddy.com/news/burma/wuhan-flights-myanmar-stopped-amid-coronavirus-outbreak.html>
- Mathieu, E., Ritchie, H., Rodés-Guirao, L., Appel, C., Giattino, C., Ortiz-Ospina, E., Hasell, J., Macdonald, B., Beltekian, D. and Roser, M. (2020). Coronavirus Pandemic (COVID-19). *Our World in Data*. <https://ourworldindata.org/coronavirus/country/myanmar>
- Myanmar Mix. (2021). As Myanmar erupts again, 'call it the Red Ribbon Revolution' says protester. *Myanmar Mix*. <https://myanmarmix.com/en/articles/as-myanmar-erupts-again-call-it-the-red-ribbon-revolution-says-protester>
- Myanmar Now. (2021). How the coup has complicated Myanmar's Covid-19 response. *Myanmar Now*. <https://myanmar-now.org/en/news/how-the-coup-has-complicated-myanmars-covid-19-response/>

- Naing, S. (2021). Myanmar receives first batch of COVID-19 vaccines from India. *Reuters*. <https://www.reuters.com/world/china/myanmar-receives-first-batch-covid-19-vaccines-india-2021-01-22/>
- Nisha, S. (2020). Kashmir, Colonialism, and COVID-19: The Weaponizing of a Pandemic to Perpetuate Oppression. <https://workingclass-academics.co.uk/wp-content/uploads/2020/07/Sahil-Nisha-Kashmir-Colonialism-COVID-19.pdf>
- Qaddour, A. and Fallon, K. (2021). Covid-19: Compounding 10 Years of Health Crises in Syria. *Center for Strategic and International Studies (CSIS)*. <https://www.csis.org/analysis/covid-19-compounding-10-years-health-crises-syria>
- Reuters. (2021). Myanmar funeral services overwhelmed as COVID toll mounts. *Reuters*. <https://www.reuters.com/world/asia-pacific/myanmar-funeral-services-overwhelmed-covid-toll-mounts-2021-07-15/>
- Rocha, I.C., Cedeño, T.D., Pelayo, M.G., Ramos, K., and Victoria, H.O.H. (2021). Myanmar's coup d'état and its impact on COVID-19 response: a collapsing healthcare system in a state of turmoil. *BMJ Mil Health*. 0(0). doi:10.1136/bmjmilitary-2021-001871
- Sawn Khai, T. (2022). Higher risk of COVID-19 infection among internally displaced persons (IDPs) in Myanmar under the military coup. *Global Public Health*. 1–5. doi:10.1080/17441692.2022.2028303
- Tostevin, M. (2021). Myanmar's COVID crisis worsens as mistrust of junta infects health system. *Reuters*. <https://www.reuters.com/world/asia-pacific/myanmars-covid-crisis-worsens-mistrust-junta-infects-health-system-2021-07-13/>
- Watanabe, S. (2021). Doubts over China vaccines' effectiveness mar production push. *Nikkei Asia*. <https://asia.nikkei.com/Spotlight/Coronavirus/COVID-vaccines/Doubts-over-China-vaccines-effectiveness-mar-production-push>
- Wittekind, C. T. (2021). Crisis Upon Crisis: Fighting COVID-19 Becomes a Political Struggle After Myanmar's Military Coup. *ISEAS-Yusof Ishak Institute*. <https://www.iseas.edu.sg/articles-commentaries/iseas-perspective/2021-67-crisis-upon-crisis-fighting-covid-19-becomes-a-political-struggle-after-myanmars-military-coup-by-courtney-t-wittekind/>
- Zomber, P. (2020). Soaring Myanmar COVID-19 Cases Test Long-Neglected healthcare System. *Voice of America*. https://www.voanews.com/a/east-asia-pacific_soaring-myanmar-covid-19-cases-test-long-neglected-health-care-system/6197196.html

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Speech-Gesture-Slide (SGS) Interplay in Academic Oral Presentations

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Abstract

The multimodal aspects of oral presentation (OP) skills have been an important focus in studies on public speech and academic communication (e.g., Hood & Forey, 2005; Morell, 2015). However, within this body of research, there has been a lack of pedagogical perspective on how to teach these multimodal aspects. Moreover, most existing studies consider either the use of gestures (e.g., Carney, 2014; Masi, 2019) or the use of slides in OPs (e.g., Dubois, 1980; Rowley-Jolivet, 2004) separately. Meanwhile, Harrison (2021) posits that it is the interplay between speech, gestures, and slides in an OP that helps to maintain the audience's attention and aid their comprehension. Building upon Harrison's work and other studies on multimodality in OPs, this pilot study analyses the speech-gesture-slide interplay in post-graduate students' OPs. In this talk, we present preliminary findings from a qualitative analysis of a small corpus of student OP videos. Our participants are post-graduate students from different disciplines taking an academic communication course at a public university in South-East Asia. Having identified the specific ways students use such functions of speech-gesture-slide interplay as “draw attention”, “depict”, “decompose”, “disclose”, and “animate”, we draw on Goodwin's (1995, 2000, 2014) framework to conclude that when presenting their research, students should strive to employ the different semiotic systems in a coherent way “so that they mutually elaborate each other in a way relevant to the accomplishment of the [communicative] actions” (Goodwin, 2014, p. 238). Other pedagogical recommendations for teaching multimodal aspects of OPs will also be discussed.

Keywords: Multimodal, Oral Presentation, English for Specific Purposes, Gesture, Teaching

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1. Introduction

Multimodal aspects of oral presentation (OP) skills have been an important focus in studies on public speech and academic communication (e.g., Hood & Forey, 2005; Morell, 2015). Within this body of research, some studies have examined conference-style presentations from multimodal discourse perspectives (e.g., Hood & Forey, 2005; Morell et al., 2008; Morell, 2015), others have specifically focused on presenters' use of hand gestures (e.g., Carney, 2014; Masi, 2019) and hand gestures in TED talks (e.g., García Pinar & Palleja Lopez, 2018; Masi, 2019, 2020; Wu & Qu, 2020). A number of studies have also analysed presenters' interaction with the visuals (Knoblauch, 2008, 2013; Morton, 2006; Rendle-Short, 2006; Dubois, 1980; Morell, 2015; Rowley-Jolivet, 2002). These studies point to the importance of the presenters' use of such multimodal aspects as hand gestures and visuals (especially the ones appearing on the slides) in conveying the content and engaging the audience. However, most of them consider the multimodal aspects of focus in separation from the other ones rather than in their interplay. Although some studies do examine a combination of modes, such as verbal and gesture/body language (Hood & Forey, 2005; Tsang, 2020), verbal and visuals/slides (Charles and Ventola, 2002; Fortanet Gómez & Edo Marzá, 2022; Rowley-Jolivet, 2012), and verbal and gaze (Ruiz-Madrid & Valeiras-Jurado, 2020), they only focus on two modes, rather than the interplay of multiple modes as a coherent whole.

Within the research on multimodality on OPs, there are only a few studies that take a pedagogical perspective on the way student presenters employ multimodal aspects in delivering their content to the audience. A relevant study by Morell, T., Garcia, M., & Sanchez, I. (2008) highlights the link between multimodality and language competence. It found that speakers with higher English language competence tend to use a greater variety and combination of modes (spoken, written, body language, image), whereas lower competence speakers seem more focused on the spoken mode, with less use of body movement. The study also discovered that many of its participants had not paid attention to the interactive features of their OPs before the study. The authors therefore conclude that courses designed to aid international English-speaking academics should emphasize the use of multimodality. Thus, more studies are needed to reveal how to teach the multimodal aspects of OPs in their interaction with each other.

One of the few studies that does take a pedagogical perspective in considering the use of spoken language, visuals on the slides, hand-gestures, eye-gaze shifts, and other body movement in academic presentations (a TED talk) has appeared recently - Harrison (2021). He emphasizes that it is the interplay of the different modes that facilitates engaging the audience and enhancing their understanding of the presentation. This "person-environment relation" is described in Goodwin's terms (2018) as an 'embodied participation framework', "a small ecology in which different signs in different media (talk, the gesturing body and objects in the world) dynamically interact with each other" (p. 199). This means that in OPs, according to Harrison (2021), students should be instructed to treat their presentation as 'showing' Streeck (2017) rather than just speaking, where showing is understood "as an environmentally-situated, embodied, enlanguaged, and socially implicative presentation skill" (Harrison, 2021, p. 17).

In sum, prior research on the use of multimodal aspects in OPs and on teaching such aspects to students points to the need of instructing them on how to effectively integrate different modalities as an ecology in conveying the meaning to the audience, and how to treat oral

presentations as a ‘single textual space’ (Rowley-Jolivet, 2002) where the different modalities interplay with each other, allowing the audience to perceive the OP as a coherent whole. To address that need, this study aims to identify how students use speech-gesture-slide (SGS)¹ interplay in their academic OPs. Based on this, the study intends to offer pedagogical recommendations on the ways to enhance students’ use of SGS interplay in academic OPs.

2. Methods

The data for the study were collected in a post-graduate communication course at a public university in Southeast Asia. The course is intended for Masters and first-year PhD students to help them improve their academic writing and oral presentation skills. In this course, the students are tasked to write a research proposal and based on this, prepare and deliver an oral presentation in the format of a conference talk. All student presentations are video recorded for evaluation and self-reflection purposes with the camera only capturing the presenter. Our participants were ten post-graduate students (two female and eight male students) from the following disciplines: nursing, physics, architecture, food science and technology, statistics and data sciences, microbiology and immunology, chemistry, business, and computing. Eight of them come from China, and two of them come from Singapore. To ensure confidentiality, all the participants’ real names have been replaced with assigned pseudonyms.

The video-recorded presentations were first viewed and annotated. Then, excerpts of interest were identified and transcribed in more detail using conventions adopted from McNeill’s (2005) gesture notation and Smotrova’s (2017) micro analysis of classroom interactions. For more precision in identifying SGS interplay, the video excerpts of interest were viewed in slow motion using QuickTime Player. The presentation videos were analysed qualitatively with the focus on the ways students use SGS interplay as described in detail below.

3. Analysis

In identifying the ways students employ SGS interplay in their presentations, we focused on the following most relevant multimodal aspects included in our annotations and transcripts: speech, visuals appearing on the slides, hand gestures, body orientation/movement (e. g., stepping forward or backward), and eye-gaze. To qualitatively analyse the interplay of these aspects, we classified the functions of SGS interplay, using the categories proposed by Harrison (2021), Streeck (2008, 2009, 2017), and Dubois (1980) as reflected in Table 1. According to this classification, in a presentation, the SGS interplay can help to “animate” a static object or process depicted on the slide. It can also help to “disclose” - make apparent the features not visible to the audience when they view the slide or enable to “decompose” – indicate the separate parts that make up an object. Finally, SGS interplay can help to “depict” – mime the action or object shown on the slide or “draw attention” by pointing to specific elements on the slide.

In our qualitative analysis of the ways the different modes were used by student-presenters interactively, we also considered whether the information was conveyed through these modes in a repetitive or rather, complementary way. This is where the verbal-visual configurations identified by Xia (2023), who had drawn on Unsworth (2008), became relevant (Table 2).

¹ The term was used in Harrison (2021) with the author’s note that it was initially suggested to him by Sotaro Kita

Purpose/Function	Description
Animate	Use gesture to show movement of inanimate, static, time-invariant objects on slides.
Disclose	Make apparent features not visible to audience
Decompose	Show separate parts that make up an object
Depict	Mime action or object; e.g. show width/length, miming turning of steering wheel
Draw attention	Use gesture or pointer (laser) to draw attention to specific elements/content on slide

Table 1: Functions of SGS interplay

Configuration	Description
Concurrence	The verbal part repeats the text reflected on the slide.
Complementarity Extension	The verbal part highlights and adds information to the visual on the slide.
Complementarity Enhancement	The visual mode provides more detailed information. The verbal mode reproduces this information in a simplified manner.

Table 2: Types of visual-verbal configurations (Xia, 2023)

4. Findings and Discussion

In this section, we will present our preliminary findings based on our qualitative analysis of the ten student presentations accomplished using the categories described above. We will begin with an excerpt that reflects the simplest SGS interplay, we will then present two excerpts that show a more intricate and complex SGS interplay, and we will conclude with two excerpts that reflect a breakdown or lack of coherence in using the SGS interplay. For the sake of space, we will present detailed transcripts only for the two excerpts that show a more intricate use of SGS interplay. The analysis below will further allow us to discuss implications for teaching effective SGS interplay and provide some pedagogical recommendations in the concluding section.

4.1 *Disclosing Meaning of the Visual in Speech*

In Excerpt 1: “Caregiving”, our participant Ryan, a student from nursing faculty, introduces his research project focused on caregiving in multigenerational families with low income. After asking the audience whether they have had some caregiving experiences in their families, Ryan next introduces a typical Singapore family and the common types of caregiving relationships existing in such a family. He does so by mainly engaging three modalities: images – photos of family members, verbal explanations, and pointing hand-gestures (Fig. 1).



Figure 1. Excerpt 1 “Caregiving”

Interestingly, the slide in Fig. 1 does not contain any text as the visuals are not labelled so that the audience has to rely exclusively on Ryan’s verbal explanations in understanding the relevance of the images to the presented topic. In this sense, Ryan’s speech fulfils the function of *disclosing* the meaning of what is depicted in the visual, and therefore, the relationship between the verbal and visual modes in this case is complementary. That is, the content of the speech, describing the types of caregiving relationships in a typical local family, complements the information conveyed by the images. According to Xia (2023), this is a “complementary extension”, where “...the speech highlights the visually presented information and provides additional information on the highlighted aspect.”

In revealing and explaining the images, Ryan also *draws the attention* of the audience to each of the images in order to make it clear which one he is talking about at the moment. He interacts with the visuals and the audience through his gaze direction as well by alternating gazing at the screen, at the audience, and then back at the screen. This is what Streek (2017) calls a “[s]plit orientation: directing attention, monitoring response” (p. 193) because explaining or “showing requires watching.”

To summarize, in this excerpt we observe that the SGS interplay employed by the student fulfils the functions of disclosing and drawing attention. In this interplay, the verbal and visual modalities complement each other, creating “a single textual space...which has to be processed as an integrated whole by the audience” (Rowley-Jolivet, 2002, p. 21). We will examine a more sophisticated way of using SGS interplay with more modalities involved in the section below.

4.2 Disclosing and Decomposing the Image

This section will present the analysis of student’s use of multiple modalities in a coherent and mutually complementary way so that several SGS interplay functions are fulfilled: *draw attention*, *depict*, *disclose*, and *decompose*. In Excerpt 2 “Urban Village”, Ziqi, a student from Business, introduces the central concept of her study: “urban village.” Throughout the excerpt, she exhibits an active verbal and embodied interaction with the image that she reveals on her slide.

- 1 And this is the downtown
 2 *-takes a step towards screen*
 3 *-stretches LH towards screen, palm open, holds*
 4 *-gazes at screen*
 5 area
 6 *-turns face towards A*
 7 *-gazes at A*
 8 *-rotates RH, holding clicker, twice*
 9 of Shenzhen
 10 *-turns face to screen*
 11 *-holds LH pointing at screen*
 12 and this is the dark area
 13 *-rotates LH palm, pointing at screen*
 14 *-clicks to reveal highlighted area (with white outline) on image*
 15 and those
 16 *-reshapes LH to point with index finger at screen, moving it closer to image*
 17 *-gazes at screen*
 18 Red part
 19 *-moves LH palm slightly upward & downward twice*
 20 *-turns face to A*
 21 is urban village
 22 *-shifts gaze further to right*
 23 *-RH holds pointing at screen*
 24 it is located in a very central area
 25 *-RH holds pointing at screen*
 26 *-gazes at screen*
 27 *-gazes at A*
 28 in the city
 29 *-steps back into initial position at right of screen*
 30 *-gazes at screen*

Figure 2. Transcript of Excerpt 2 “Urban Village”

Preceding the excerpt, Ziqi starts to introduce the concept of urban village by providing its definition as she talks through the bullet points on her slide. Following that, she reveals the image that visually illustrates the urban village - a photo of the urban area in Shenzhen, a city in China.



Figure 3. Lines 1-4 “And this is the downtown”

Ziqi first draws the audience's attention to the photo of the downtown area on her slide (lines 1-4; Fig. 3). She does that through body movement by taking a step towards the screen to engage the audience with the image through proxemics. Simultaneously, she uses a pointing gesture by stretching her left hand towards the screen, with palm open, facing the audience. Interestingly, Ziqi chooses to point with her hand rather than with the laser, which makes the pointing much more prominent in attracting the audience's attention. She enhances this function by also directing her gaze towards the image on the slide.



Figure 4. Lines 5-8 “area”

At the word “area”, Ziqi turns her face and redirects her gaze towards the audience, (lines 5-8). This is again the “split orientation” observed in Excerpt 1, where the presenter simultaneously directs attention and monitors response. Having established the mutual gaze, Ziqi illustrates the meaning of the word “area” by using an iconic gesture (depiction) – rotating her right hand (holding the clicker) twice. This movement not only imitates the shape of the downtown area depicted in the image, but also highlights the boundaries of the space, which are not obvious from the photo. In line 12, Ziqi also specifies, “this is the dark area” and rotates her hand again to depict the area. Thus, the iconic gesture complements the image by disclosing the bounded nature of the downtown area.



Figure 5. Line 14: “area” -clicks to reveal highlighted area (with white outline) on image

Ziqi then approaches the crucial point in her explanation by revealing the animation added to the photo of the downtown area – a white outline with a red-coloured area within it (Fig. 5; line 14). This outlined area depicts the central concept - urban village and helps to *decompose* the image into two elements: downtown area and urban village. As she says “those”, Ziqi also makes her pointing gesture more specific by stretching forward her index finger (line 15). At the same time, she changes the proxemics by moving closer to the screen with her gaze directed at the image. In this way, Ziqi enhances the function of drawing the audience's

attention, adding an upward and downward gesture with the pointing hand as she says “red part” (lines 18-19). She finally discloses in speech that this is “urban village” and gazes at the audience when introducing this central term (lines 21-22). At the end of her explanation, Ziqi changes the proxemics again by stepping back into her initial position, slightly away from the screen, as if signalling that the current explanation is complete (lines 28-29). She then moves on to the next slide.

We can see how in this excerpt, the student-presenter employed the different modalities in a coherent and mutually complementary way: the visual, proxemics, hand-gesture, and gaze-direction were all well-aligned to serve the communicative purpose of introducing the concept of urban village. The interplay of proxemics, gesture, and gaze served the function of *drawing attention*; the verbal helped to *disclose* the meaning of the image; the iconic gesture *depicted* the bounded nature of the downtown area, and the animation-the outline helped to *decompose* the image. In the excerpt below we will examine another function of SGS interplay – *animating* a diagram depicted on the slide through iconic gesture.

4.3 Animating the Diagram

This section will discuss the *animating* function of SGS interplay as performed in Excerpt 3 “Spin up – Spin down”. In this excerpt, Wei Jie, a student from Physics department with specialization in the cutting-edge area of quantum physics, takes considerable effort to explain his project to an inter-disciplinary audience. To fulfil this challenging task, Wei Jie extensively uses different types of multimodal resources, including visuals, abundant hand-gestures and other body movement, and even real objects to convey the meaning of his project to the audience from outside his discipline. We will see how the student *animates* the diagram and converts it into a dynamic depiction through iconic gesture.

Preceding the excerpt, Wei Jie poses the question central to his project: how to create the “cubit” - the quantum information unit, alternative to the familiar “bit” in traditional computers. He then indicates that his project proposes to use ground state molecules and shows the diagram that depicts two such molecules in a dipole state (Fig. 7). Their relative position is marked as “ r ”, and the angle is marked as “ θ ”. Wei Jie will then explain that under the influence of electric/magnetic field these two molecules can rotate or “spin.”

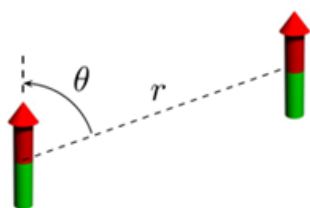


Figure 6. Two dipole molecules

1. The dipole moment could be controlled
2. *-faces screen, clicks to reveal image 2, makes beat with BH, RH index finger extended*
3. *-turns to face A, makes beat with BH at chest*
4. by uh extra electric field
5. *-turns and steps toward screen, extends BH upward toward diagram, palms open, facing each other,*
6. *-shifts body upward, “framing” part of image (p1 and angle)*

7. electric field
8. *-moves BH slightly away from screen surface, retaining the “frame”*
9. or magnetic field. So
10. *-holds BH over diagram, moves BH closer together towards angle*
11. you could see this theta here right,
12. *-moves RH holding clicker around angle twice*
13. *-swiftly points at theta symbol with RH index finger*
14. so we could use extra field
15. *-steps away from screen, faces A, rotates BH at chest*
16. to control theta
17. *-turns to screen, extends LH and points with index finger towards theta symbol*
18. to like maybe
19. *-moves BH back to chest, faces A*
20. spin down

21. *-shapes BH as fists, rotates BH: RH index finger points downward, LH index finger points upward*
22. spin up
23. *-rotates BH: now RH index finger points upward, LH index finger points downward*

24. (pause)
25. *-moves BH, index fingers extended, back to screen*
26. uh the molecule
27. *-brings Both pointing Hands back to chest*
28. up and down
29. *-holds BH, index fingers pointing upward*
30. *-flips RH, index finger pointing downward*
31. uh to like control
32. *-right index fingers imitates writing in the air*
33. the qubit, if you remember
34. *-points towards screen as if indicating position of previous diagram he’s talking about*
35. the probability of the one state and zero state. So (pause)
36. *-points with RH index finger upward*
37. *-reshapes as feast (no pointing)*
38. that’s the one way we could use the ground state molecule to make qubit
39. *-extends RH index finger, pointing at screen (in diagram’s direction), makes beats*

Figure 7. Excerpt 3 “Spin up – Spin down”

The excerpt begins with Wei Jie’s crucial explanation that “the dipole moment could be controlled by extra electric field” (lines 1-9). During this explanation, he tightly interacts with the diagram to attract the audience’s attention. In lines 3-4, Wei Jie steps towards the screen and almost completely turns towards the screen, away from the audience. Importantly, he uses his both hands to “frame” the most relevant part of the diagram - the angle that is changed by the electric field (Fig. 8).

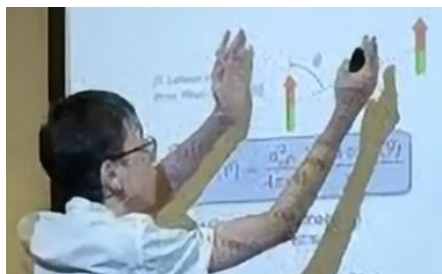


Figure 8. Line 4: “electric field”

This container gesture (palms facing each other), seems to fulfil three functions – iconically portraying the applied electric field and disclosing/drawing attention to the part that is most influenced by the field (the angle). Wei Jie next circles the angle itself as he says “so you could see this theta” (lines 11-12). After such a tight engagement with the screen, Wei Jie orients back to the audience as he steps away from the screen, faces the audience, and establish mutual eye-gaze with them as if checking whether they understood his complex embodied explanation.

Wei Jie then produces his crucial animation of the diagram through iconic gesture, disclosing its dynamic nature (lines 18-23). He transitions in speech “to like maybe” and positions himself facing the audience and prepares to produce the gesture by bringing both hands to chest (lines 18-19). Wei Jie then clenches both palms as fists with index fingers extended and rotates both wrists so that the index fingers alternately point upward and downward. This rotating movement is synchronised with the words “spin down; spin up” (lines 20-23).

In this iconic gesture, the student dynamically demonstrated the spin of the molecules under the impact of the electric field and *animated* the static diagram. With this gestural movement, he also converted a 2-dimensional image on screen into a 3-dimensional gestural movement, the movement which is impossible to be reflected dynamically in a visual. In this sense, he also *disclosed* the dynamic features hidden behind the 2-D image.



Figure 9. Line 20: “spin down”



Figure 10. Line 22: “spin up”

4.4 Showing Lack of Coherence in SGS Interplay

In this section we will briefly discuss the cases when, unlike the presenters above, students exhibit breakdowns or lack of coherence in using the multiple modes.

In Excerpt 4, “Norovirus”, a student from school of medicine, Winston, introduces the disease caused by norovirus. The textual part of the slide, which focuses on the ways of transmitting the disease, is accompanied by multiple, not labelled, images. The images are probably intended to illustrate the text by showing some symptoms and ways of the disease transmission. However, the other modes that Winston employs in presenting this slide do not seem to cohere with the visuals: the speaker does not refer to the images verbally and does not attempt to direct the audience’s attention to them through gesture or eye-gaze. In fact, his body and gaze are often directed away from the screen (Fig. 11), which signals lack of the “split orientation” observed in the excerpts above (drawing attention and monitoring response). For example, when Winston mentions such a symptom as diarrhoea, which is depicted on two images appearing on the slide, his body is turned away from the screen, while the gesture involves only container beat gestures, marking the rhythm of his speech. Thus, the images are not made part of “a single textual space” that should be created through coherent SGS interplay (Rowley-Jolivet, 2002).



Figure 11. Excerpt 4 “Norovirus”

A similar lack of coherence can be seen in Excerpt 5 “Time”, where a student from Physics, Kei Wen, presents the textual information reflected in multiple bullet points. These points are revealed all at the same time on the slide without the use of animation to help the audience focus. Even though Kei Wen uses multiple pointing gestures, he stands too far from the screen, and such proxemics seems to make it difficult for the audience to identify which specific line on the slide the presenter is pointing at. The challenge of understanding his content seems to increase once Kei Wen starts to explain the formula shown on the slide since his pointing is not close and specific enough for indicating the specific elements of the

formular. In this excerpt, we can see a lack of coherence in employing gestures and proxemics for drawing attention and decomposing the numerical visual.

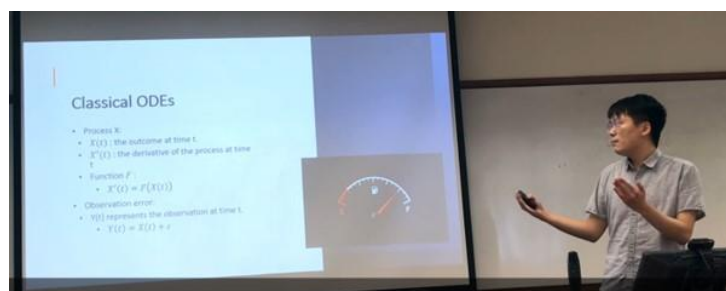


Figure 12. Excerpt 5 “Time”

5. Pedagogical Recommendations

Our findings indicate that in conveying the meaning of research projects, it is important for students to employ the different modalities as a coherent whole, a unified ecology in which these modalities complement and enhance each other. While some students are able to use the SGS interplay quite effectively in fulfilling its functions of *drawing attention*, *animating*, *disclosing*, and *decomposing*, other students exhibit lack of coherence in aligning the different modes to create a single textual space. This points to the necessity of making students aware of and instructing them on how the meanings of one element in the multimodal ensemble should emphasize, reinforce, or restate the meanings of another (Masi, 2020).

In the view of our findings, we suggest the following pedagogical recommendations for helping students integrate the speech, gestures, and slides coherently to convey the intended meaning effectively in their academic presentations.

1. **Raise awareness about semiotic modes interaction.**
Highlight the importance of the interaction between the different semiotic modes – speech, gestures, and slides – to help students understand how these elements work together to convey meaning effectively.
2. **Provide specific instruction on SGS interplay functions.**
Teach students the different functions of SGS interplay (animate, disclose, depict, decompose, and draw attention) with specific video excerpts to exemplify how effective presenters orchestrate different modalities to achieve these functions.
3. **Analyse and discuss effective and ineffective uses of SGS interplay.**
Show video excerpts of both effective and ineffective uses of SGS interplay and engage students in a discussion to identify best practices and common pitfalls; discuss how these impact audience engagement and comprehension.
4. **Practice with peer feedback.**
Conduct practice sessions where students present to their peers and receive constructive peer feedback. These sessions should focus on SGS interplay. Structured peer feedback forms could be used to ensure that the feedback is comprehensive and focused on the demonstration of coherent SGS interplay.

5. Video record presentations for self-evaluation.
Encourage students to video record their presentations and review these recordings with the help of structured reflection forms that focus on the purposeful and coherent use of speech, gesture and slide interplay.
6. Create a repository of videos for instructional purposes
It could be helpful for instructors to begin collecting and cataloguing video excerpts that exemplify effective and ineffective use of SGS interplay for future teaching purposes. This would ensure that there is a supply of relevant videos for students from different disciplines.

6. Conclusion

The literature has consistently highlighted the value of speakers' coherently employing different semiotic systems "so that they mutually elaborate each other in a way relevant to the accomplishment of the [communicative] actions" (Goodwin, 2014, p. 238). Our study has shown that while some students are more effective in achieving this goal, others need more guidance in this respect and therefore, it appears important to actively "sensitise and engage students more directly and implicitly with the ecology of oral presentations" (Harrison, 2021, p. 1) by raising awareness of the importance of SGS interplay in sense-making. We hope that our study and recommendations could provide helpful steps for instructors to help students demonstrate such SGS interplay more effectively in their academic oral presentations.

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References

- Carney, N. (2014). Is there a place for instructed gesture in EFL? In N. Sonda & A. Krause (Eds.), *JALT2013 Conference Proceedings* (pp. 413–421). https://jalt-publications.org/sites/default/files/pdf-article/jalt2013_041.pdf
- Charles, C., & Ventola, E. (2002). A multi-semiotic genre: The conference slide show. In E. Ventola, C. Shalom, & S. Thompson (Eds.), *The language of conferencing* (pp. 169–210). Peter Lang: Frankfurt am Main.
- Dubois, B. L. (1980). The use of slides in biomedical speeches. *The ESP Journal*, 1, 45–50. [https://doi.org/10.1016/0272-2380\(80\)90009-8](https://doi.org/10.1016/0272-2380(80)90009-8)
- Fortanet Gómez, I., & Edo Marzá, N. (2022). New genres and new approaches: Teaching and assessing product pitches from a multimodal perspective in the ESP classroom. *Porta Linguarum Revista Interuniversitaria de Didáctica de Las Lenguas Extranjeras*, 38, 65–81. <https://doi.org/10.30827/portalin.vi38.21621>
- García Pinar, A., & Palleja Lopez, C. (2018). TED talks: A multimodal tool for students of technological English. *Docencia e Investigación*, 29, 6–24. <https://repositorio.upct.es/server/api/core/bitstreams/e89962b8-aeec-4948-a4c7-2f04ca40b732/content>
- Goodwin, C. (1995). Co-Constructing meaning in conversations with an aphasic man. *Research on Language and Social Interaction*, 28(3), 233–260. <https://home.cs.colorado.edu/~martin/Csci6402/Papers/goodwin2.pdf>
- Goodwin, C. (2000). Pointing and the collaborative construction of meaning in aphasia. *Proceedings of the Seventh Annual Symposium About Language and Society*, 43, 67–76. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=a95db04cc36d3855721c70daf6bc08106c60903f>
- Goodwin, C. (2014). The intelligibility of gesture within a framework of co-operative action. In M. Seyfeddinipur & M. Gullberg (Eds.), *From Gesture in Conversation to Visible Action as Utterance* (pp. 199–216). John Benjamins Publishing Company. <https://doi.org/10.1075/z.188.10goo>
- Goodwin, C. (2018). *Co-Operative Action*. Cambridge University Press.
- Harrison, S. (2021). Showing as sense-making in oral presentations: The speech-gesture-slide interplay in TED talks by Professor Brian Cox. *Journal of English for Academic Purposes*, 53, 101002. <https://doi.org/10.1016/j.jeap.2021.101002>
- Hood, S., & Forey, G. (2005). Introducing a conference paper: Getting interpersonal with your audience. *Journal of English for Academic Purposes*, 4(4), 291–306. <https://doi.org/10.1016/j.jeap.2005.07.003>
- Knoblauch, H. (2008). The performance of knowledge: Pointing and knowledge in powerpoint presentations. *Cultural Sociology*, 2(1), 75–97. <https://doi.org/10.1177/1749975507086275>

- Knoblauch, H. (2013). *PowerPoint, Communication, and the Knowledge Society*. Cambridge University Press.
- Masi, S. (2019). Complex mapping of words and gestures in TED Talks. In V. Bonsignori, G. Cappelli, & E. Mattiello (Eds.), *Worlds OF words: Complexity, creativity, and conventionality in English language, literature and culture* (Vol. 1, pp. 115–126). Pisa University Press. <https://arpi.unipi.it/bitstream/11568/1026717/9/Contributo%20Masi%20compresso.pdf>
- Masi, S. (2020). The multimodal representation of “Ideas worth spreading” through TED talks (1.0) [dataset]. University of Salento. <https://doi.org/10.1285/I22390359V36P155>
- McNeill, D. (2005). *Gesture and Thought*. University of Chicago Press. <https://doi.org/10.7208/chicago/9780226514642.001.0001>
- Morell, T. (2015). International conference paper presentations: A multimodal analysis to determine effectiveness. *English for Specific Purposes*, 37, 137–150. <https://doi.org/10.1016/j.esp.2014.10.002>
- Morell, T., García, M., & Sánchez, I. (2008). Multimodal strategies for effective academic presentations in English for non-native speakers. In R. Monroy & A. Sanchez (Eds.), *25 years of applied linguistics in Spain: Milestones and challenges* (pp. 557–568). Universidad de Murcia. <https://www.um.es/lacell/aesla/contenido/pdf/4/morell.pdf>
- Morton, J. (2006). The integration of images into architecture presentations: A semiotic analysis. *Art, Design & Communication in Higher Education*, 5(1), 21–37. https://doi.org/10.1386/adch.5.1.21_1
- Rendle-Short, J. (2006). *The Academic Presentation: Situated Talk in Action*. Routledge. <https://doi.org/10.4324/9781315241500>
- Rowley-Jolivet, E. (2002). Visual discourse in scientific conference papers: A genre-based study. *English for Specific Purposes*, 21(1), 19–40. [https://doi.org/10.1016/S0889-4906\(00\)00024-7](https://doi.org/10.1016/S0889-4906(00)00024-7)
- Rowley-Jolivet, E. (2004). Different visions, different visuals: A social semiotic analysis of field-specific visual composition in scientific conference presentations. *Visual Communication*, 3(2), 145–175. <https://doi.org/10.1177/147035704043038>
- Rowley-Jolivet, E. (2012). Oralising text slides in scientific conference presentations: A multimodal corpus analysis. In A. Boulton, S. Carter-Thomas, & E. Rowley-Jolivet (Eds.), *Studies in Corpus Linguistics* (Vol. 52, pp. 135–166). John Benjamins Publishing Company. <https://doi.org/10.1075/scl.52.06row>
- Ruiz-Madrid, N., & Valeiras-Jurado, J. (2020). Developing multimodal communicative competence in emerging academic and professional genres. *International Journal of English Studies*, 20(1), 27–50. <https://doi.org/10.6018/ijes.401481>

- Smotrova, T. (2017). Making pronunciation visible: Gesture in teaching pronunciation. *TESOL Quarterly*, 51(1), 59–89.
<https://www.jstor.org.libproxy1.nus.edu.sg/stable/44986977>
- Streeck, J. (2008). Depicting by gesture. *Gesture*, 8(3), 285–301.
<https://doi.org/10.1075/gest.8.3.02str>
- Streeck, J. (2009). *Gesturecraft: The manufacture of meaning* (Vol. 2). John Benjamins Publishing Company. <https://doi.org/10.1075/gs.2>
- Streeck, J. (2017). *Self-Making Man: A Day of Action, Life, and Language* (1st ed.). Cambridge University Press. <https://doi.org/10.1017/9781139149341>
- Tsang, A. (2020). Enhancing learners' awareness of oral presentation (delivery) skills in the context of self-regulated learning. *Active Learning in Higher Education*, 21(1), 39–50.
<https://doi.org/10.1177/1469787417731214>
- Unsworth, L. (2008). Multiliteracies and metalanguage: Describing image/text relations as a resource for negotiating multimodal texts. In J. Coiro, M. Knobel, C. Lankshear, & D. J. Leu (Eds.), *Handbook of Research on New Literacies* (0 ed., pp. 395–424). Routledge. <https://doi.org/10.4324/9781410618894-24>
- Wu, A., & Qu, H. (2020). Multimodal analysis of video collections: Visual exploration of presentation techniques in TED Talks. *IEEE Transactions on Visualization and Computer Graphics*, 26(7), 2429–2442. <https://doi.org/10.1109/TVCG.2018.2889081>
- Xia, S. (2023). Explaining science to the non-specialist online audience: A multimodal genre analysis of TED talk videos. *English for Specific Purposes*, 70, 70–85.
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***Development of the Happy Teacher Module –
Adapt to a Positive Psychological Approach in the School Context***

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Abstract

Early childhood teachers have an important strategic role in developing children's golden age. Teachers with psychological well-being will be able to develop the well-being of students as well. Psychological well-being is the main function of education to maximize the growth of teachers and students. On the other side, teachers' duties and responsibilities at school cause stress easily. In this case, the "Happy Teacher" module was developed containing approaches, materials and guidelines adapted from Positive Psychology studies aimed at promoting psychological well-being in the school context. This module was developed based on literature studies and preliminary studies on the needs of early childhood education teachers in Palangka Raya, Indonesia. The Research and Development (R&D) method with the 4D development model was carried out in this research, which consists of four development stages. The first stage is Define, the second stage is Design, the third stage is Development, and the fourth stage, Dissemination. The Eligibility of this module was assessed by three experts, namely content, design and language. The results of this research show the Eligible Category for module content validation (78%), as well as the Very Eligible category for design validation (87%), language validation (86%), initial module trials (80.58%), and field trials (86%). The module was also assessed by thirty teachers and obtained a percentage of 84.39% in the very Eligible Category. The "Happy Teacher" module is expected to provide practical guidance for the psychological well-being of Early Childhood Education teachers.

Keywords: Early Education, Psychological Well-being, Positive Psychology

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Introduction

This research aims to develop a module adapt from positive psychology approach to help Early Childhood Education teachers realize the importance of becoming well being individuals. A happy teacher will bring the concept of school well-being to students at school. Healthy and happier students learn effectively, make positive contributions to the school and more broadly to the community (Konu, A., & Rimpela, M. 2002). This is in line with the function of education stated by Ki Hajar Dewantara, "Education will lead students to the highest sense of happiness." Happy students can foster encouragement to achieve the best achievements (Harackiewicz, J. M, Barron, K. E, Tauer, J. M & Elliot, J. A, 2002; Rahayu, W. P, 2011). To be able to function fully as an educator, teachers must meet their own needs first, both physical and psychological needs (Fransisca Iriani & Ninawati, 2005). Teachers who are psychological well being are teachers who do their work carefree, happy, and responsible. Early Childhood Education teachers must be responsible and competent in educating children from the basics and also able to create appropriate media for learning. Apart from that, all conditions of Early Childhood Education teachers at school are prone to causing stress and affect a teacher's psychological well-being. Negative emotions experienced by teachers can affect classroom dynamics and student learning (Robinson, M.D., Edward R.W. & Eddie Harmon-Jones, 2013). Therefore, an Early Childhood Education teacher need to have a condition of psychological well-being to be able to manage negative emotions (Issom F.L, & Raisata M, 2017). In this regard, a special approach is needed so that early childhood education teachers in schools are in a psychologically well being condition, which has an impact on the education system where students also feel happy. Positive Psychology is approach that can promote the psychological well-being of Early Childhood Education teachers. In general, the development of a positive psychology approach for teachers in schools aims to change the perspective on education which focuses on problems and disturbances in the teaching and learning process to more fully explore individual strengths, as a form of effective prevention from various negative impacts of problems or pressures experienced (Terjesen, Mark, Jacofsky, Matthew, Froh, Jeffrey and Di Giuseppe, Raymond, 2004). So far there has not been much research related to positive psychology for the psychological well-being of early childhood education teachers, so it is important to develop modules with approaches that are adapted to the Indonesian context and culture. This module is designed on a self-instructional basis, intended for individuals to learn independently and not depend on other people so that efficiency and goals are achieved optimally (Yahya, Mariam, 2017). The Happy Teacher Module using a Positive Psychology approach in the school context contain approaches, materials and guidelines adapted from positive psychology studies to promote the psychological well-being of Early Childhood Education teachers in accordance to Indonesian culture.

Literature Review

Psychological well-being is a concept developed from the function of positive psychology which includes the perspective of the concept of self-actualization put forward by Maslow, a fully functioning human from Rogers and the maturity formulation from Allport (Huebner, Gilman & Jurlong in Yuliani 2018). Maulia, Ellya, Agus and Suhendri (2018) explained that psychological well-being for teachers is a feeling containing positive emotions in teachers which encourages teachers to feel happy, able to carry out the teacher's role proportionally and optimize their own potential to the maximum as an educator. The research results of Desi Maulia and Ellya Atik (2019) illustrate that well-being for Early Childhood Education teachers refers to feelings of happiness and fulfillment of satisfaction in their role that able to

direct them towards better achievements. Research by Devi Risma and Nurlita (2015) shows that there is a significant relationship between the psychological well-being of Early Childhood Education teachers and performance. Seligman and Csikszentmihalyi (2000), define positive psychology as the scientific study of positive human functioning and development at several levels that include biological, personal, relational, institutional, cultural, and global dimensions of life. The purpose is to identify and enhance human strengths and virtues that enable them to live a life worth living and enable individuals and societies to thrive. An important focus in positive psychology is the perspective of humans as positive figures so that humans are not only seen from the psychological problems they face, but focus on the positive aspects (Linley, A, 2006). Direct practice of positive psychology values in the world of education is very necessary. To achieve psychological well-being, an early childhood education teacher needs to have a positive view of self and be able to use techniques in a positive approach to managing children's behavior in the classroom. Teachers play a role in providing encouragement, teaching children to overcome problems, providing examples of how not to give up when facing problems, and providing realistic feedback (Boman, Furlong & Sochet, 2009). Positive Psychology is an approach that plays a big role in changing people's perspective on life. Based on these problems, a module for early childhood education teachers needs to be developed. A module is a relatively short, self-contained teaching unit self-designed to achieve a goal. Module have a series of activities that are well coordinated and appropriate with materials and media as well as evaluation. Modules can be used independently individuals and can also be used in group. Aspects of positive psychology in this module include well being, hope, optimism, engagement, positive self-concept, gratitude, self-efficacy, mindfulness, flow, forgiveness.

Research Objectives

The purpose of this research is to develop a Happy Teacher Module in the school context as a factor that strengthens the psychological well-being of Early Childhood Education teachers.

Methodology

This research uses the Research and Development (R&D) method with a 4D development model, which consists of four development stages. The first stage is Define, namely the needs analysis stage, the second stage is Design, the activity of creating a design for a product that has been determined, the third stage is Development, is making the design into a product and testing the validity of the product, and the fourth stage, Dissemination, is the activity of disseminating products that have been tested for use (Sugiyono , 2019). The data collection methods used in this research are survey and questionnaire methods. This research involved three experts to carry out module validation tests, including material experts from the Indonesian Positive Psychology Association, language experts and module design experts. The respondents in this research were Early Childhood Education teachers who are members of Cluster VII Bunga Wijaya Kusuma in Palangka Raya, Central Kalimantan, Indonesia. The following is an explanation of the stages of the 4D model:

1. The define stage is to determine and define the module requirements starting with an initial analysis until determining the module objectives. The activities carried out consist of studying the problems faced by teachers in determining possible alternative modules that are more effective and efficient to answer the needs of Early Childhood Education Teachers for psychological prosperity.
2. Design consists of preparing a criteria reference test including preparing instruments used to assess the feasibility and effectiveness of the module being developed

(validation instrument), as well as preparing instruments to assess the skills of Early Childhood Education teachers (test instrument). Next, the researcher chose the format, initial design and collected references for the modules that would be developed according to the needs of Early Childhood Education teachers.

3. The development stage is product planning from the previous stage which aims to produce a module as the final product. The modules developed will be tested for egibile by 3 (three) experts including material experts from the Indonesian Positive Psychology Association, Language experts and module Design experts. Input and suggestions from the validation results are then used to improve the module. After that, the module was field tested on Early Childhood Education teachers in cluster VII Bunga Wijaya Kusuma Palangka Raya and the analysis results are used as data to revise the final product before being disseminated.
4. In the Dissemination Stage, researchers disseminate the Module products that have been developed. In this research, the distribution of the developed module was limited to Early Childhood Education Teacher.

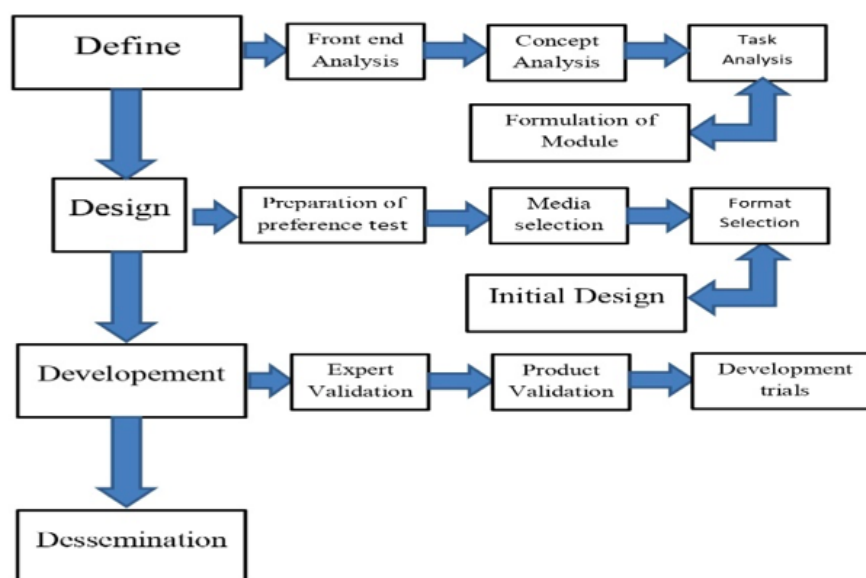


Figure 1: 4D Flow Diagram

Data Analysis

The data analysis technique in this research is quantitative descriptive analysis. Descriptive statistics are statistics used to analyze data by describing or illustrating the data that has been collected without intending to make general conclusions or generalizations (Sugiyono, 2019: 206). Data analysis techniques for module egibilite include validation sheets for assessment aspects, indicators and module assessment items from each validator. The next step is to calculate the average score for each component of the assessment aspect. The final step is Converting the average score into a value with categories. The data presented in this research is in the form of tables or frequency distributions and cross tabulations (crosstab) to determine the trend of results study.

Respondents	Score	Percentage	Criteria
1	160	86.48%	Very Eligible
2	150	78.95%	Eligible
3	181	95.26%	Very Eligible
4	149	78.42%	Eligible
5	120	64.86%	Eligible
6	159	85.94%	Very Eligible
7	150	78.95%	Eligible
8	149	78.42%	Eligible
9	152	80.00%	Very Eligible
10	120	64.86%	Eligible
Total	1490	80.58%	Very Eligible

Table 1: Initial Module Trials

No	Expert Validation	Score Percentage	Assesment Category
1	Content Validation	78%	Eligible
2	Design Validation	87%	Very Eligible
3	Language Validation	86%	Very Eligible

Table 2: Expert Validation

Respondents	Score	Percentage	Criteria
1	180	97.29%	Very Eligible
2	165	89.18%	Very Eligible
3	181	97.83%	Very Eligible
4	149	80.54%	Very Eligible
5	124	67.02%	Eligible
6	169	91.35%	Very Eligible
7	173	93.51%	Very Eligible
8	181	97.83%	Very Eligible
9	157	84.86%	Very Eligible
10	167	90.27%	Very Eligible
11	158	85.40%	Very Eligible
12	124	67.02%	Eligible
13	162	87.56%	Very Eligible
14	160	86.48%	Very Eligible
15	156	84.32%	Very Eligible
16	155	83.78%	Very Eligible
17	158	85.40%	Very Eligible
18	161	87.02%	Very Eligible
19	140	75.67%	Eligible
20	165	90.81%	Very Eligible
Total	3185	86%	Very Eligible

Table 3: Field Trials

Respondents	Score	Percentage	Criteria
1	180	97.89%	Very Eligible
2	150	78.95%	Eligible
3	181	95.26%	Very Eligible
4	149	78.42%	Eligible
5	124	65.26%	Eligible
6	169	88.95%	Very Eligible
7	173	91.05%	Very Eligible
8	181	95.26%	Very Eligible
9	152	80.00%	Very Eligible
10	163	85.79%	Very Eligible
11	158	83.16%	Very Eligible
12	124	65.26%	Eligible
13	162	85.26%	Very Eligible
14	150	78.95%	Eligible
15	156	82.11%	Very Eligible
16	155	81.58%	Very Eligible
17	158	83.16%	Very Eligible
18	161	84.74%	Very Eligible
19	140	73.68%	Eligible
20	158	83.16%	Very Eligible
21	134	70.53%	Eligible
22	169	88.95%	Very Eligible
23	164	86.32%	Very Eligible
24	161	84.74%	Very Eligible
25	183	96.32%	Very Eligible
26	181	95.26%	Very Eligible
27	180	94.74%	Very Eligible
28	159	83.68%	Very Eligible
29	164	86.32%	Very Eligible
30	165	86.84%	Very Eligible
Total	4810	84.39%	Very Eligible

Table 4: Trial with Teachers

Limitation

1. More respondents in a wider location with different regional characteristics are needed, so that the module can be generalized.
2. Each respondent's characteristics in this study are not specifically described, for example honorary teachers, contract teachers, public school teachers, private teachers or teachers who are new in teaching. Future research should be able to describe these differences in characteristics.

Conclusion

The Eligibility of this module was assessed by three experts: content, design and language. The results of this research show the Eligible Category for module content validation (78%), as well as the Very Eligible category for design validation (87%), language validation (86%), initial module trials (80.58%), and field trials (86%). The module was also assessed by thirty teachers and obtained a percentage of 84.39% in the very Eligible Category. The “Happy Teacher” module is expected to provide practical guidance for the psychological well-being of Early Childhood Education teachers.

Suggestions

1. In the future, this module should be developed with designs for online platforms in collaboration with professional experts in that field.
2. Research on education providers should carry out broader studies and generalizations, even though this study has Indonesian characteristics, a long-term roadmap is needed regarding the involvement of module material in the school curriculum.

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References

- Boman, Peter, Furlong, Michael & Shochet, Ian. (2009). Optimism and the School Context. Handbook of Positive Psychology in School. Oxon: Taylor & Francis.
- Fransisca Iriani & Ninawati.(2005). Gambaran Kesejahteraan psikologis Pada Dewasa Muda ditinjau dari Pola Attachment.Jurnal Psikologi. Jakarta. Fakultas Psikologi. Universitas Tarumanegara.
- Gillman, Rich, Huebner, E.Scott & Furlong, Michael J (editors). 2009. Handbook of Positive Psychology in School. Oxon: Taylor & Francis.
- Harackiewicz, J. M, Barron, K. E, Tauer, J. M & Elliot, J. A. (2002). Predicting success in college: A Longitudinal study of achievement goals and ability measures as predictor of interest and performance from freshman year through graduation. Journal of Educational Psychology, 94 (3). 562- 575.
- Hartanti. (2017). Proceedings Book Seminar Nasional: Penerapan Psikologi Positif Pada Masyarakat Urban. LPPM Universitas Surabaya: Surabaya.
- Huebner, R., Gilman, E.S., & Furlong, J. (2009). A conceptual model for research in positive psychology in children and youth. Dalam Rich Gilman, E. Scoot Huener & J. Furlong (Penyunting). Handbook of positive psychology in school. New York: Routledge.
- Issom F.L, & Raisata M. (2017). Pengaruh Stress Terhadap Psychological WellBeing Pada Guru Honorer Madrasah Ibtidaiyah Di Kota Tangerang. Jurnal Perspektif Ilmu Pendidikan, 31(1):61-67 DOI: <http://doi.org/10.21009/PIP.311.8>
- Konu, A., & Rimpela, M. (2002). Well-being in school: A conceptual model. Health Promotion International. 17(1), 79-89.
- Linley P. Alex. (2006). Positive Psychology: Past, Present, and Possible Future. The Journal of Positive Psychology (Online). Vol 1, No 1, Hal 3-16.
- Maulia. D., Ellya R., Agus S., & Suhendri. (2018). Makna Kesejahteraan Guru Pendidikan Anak Usia Dini. Jurnal Psikologi Integratif, 6 (2), 176-189.
- Rahayu, W. P. (2011). Analisis intensitas pendidikan oleh orangtua dalam kegiatan belajar anak, status sosial ekonomi orangtua terhadap motivasi belajar dan prestasi belajar siswa. Jurnal Pendidikan & Pembelajaran, 18 (1), 72- 80.
- Risma Devi, Nurlita (2015). Hubungan Kesejahteraan Psikologis Dengan Kinerja Guru Paud Se Kota Pekanbaru.<https://educhild.ejournal.unri.ac.id/index.php/JPSBE/article/view/3823/3715>
- Robinson, M.D., Edward R.W. & Eddie Harmon-Jones. (2013). Handbook of Cognition and Emotion. London: LondonThe Guilford Press.

Seligman, Martin E.P & Csikszentmihalyi, Mihaly. (2000). Positive Psychology: An Introduction. American Psychology Association, Vol 55, No. 1, 5-14.

Sugiyono, (2019). Metodologi Penelitian Pendidikan. (Bandung: ALFABETA)

Terjesen, Mark.D, Jacofsky, Matthew, Froh, Jeffrey and Di Giuseppe, Raymond. (2004). Integrating positive psychology into schools: Implication for practice. Psychology in Schools, Vol.41 (1). Wiley Periodical, Inc.

Yahya, Mariam. (2017). Modul Pengembangan *Psychological Well-Being* pada Mahasiswa Perfeksionis. Jurnal Ilmiah Mahasiswa Universitas Surabaya Vol.6 No.1.

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***Game-Based Learning Model Using Augmented Reality Technology
to Promote Creative Problem Solving***

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Abstract

Game-based Learning Model Using Augmented Reality Technology are educational approaches that help develop knowledge, stimulate interest and participation in learning to promote creative problem solving through an engaging and effective learning experience. The objectives of this research are: 1) To develop Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving 2) To evaluate the quality of Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving 3) To assess the satisfaction of the sample with Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving. The sample group consisted of 50 undergraduate students in the Bachelor of Science program, Applied Computer Science-Multimedia by voluntary selection method. The research tool consists of 1) Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving. 2) Quality assessment of Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving. 3) Assessment of satisfaction with Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving. The results of the research found that the overall quality of the media is at a very good level and satisfaction is at the highest level. This model not only imbues the learning process with elements of enjoyment and challenge but also underscores the cultivation of critical skills essential for adaptability across diverse situations. Moreover, it facilitates the development of innovation and creativity requisite in the face of a dynamically evolving world.

Keywords: Game-Based Learning, Augmented Reality Technology, Creative Problem Solving

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Introduction

In recent years, the landscape of education has been rapidly transforming, driven by advancements in technology and the increasing need for innovative teaching methods. Among these technological advancements, Augmented Reality (AR) has emerged as a powerful tool in educational settings, offering immersive and interactive learning experiences that can significantly enhance students' engagement and understanding. Concurrently, Game-Based Learning (GBL) has gained traction as an effective pedagogical approach, leveraging the motivational aspects of games to promote active learning and problem-solving skills. Teaching and learning via Augmented Reality technology have garnered significant attention within the educational sphere. AR integrates virtual elements with the physical world, utilizing devices like smartphones and AR glasses to overlay information and graphics onto real-world images. This technology aims to enhance learning and teaching experiences by creating immersive and value-added educational encounters, particularly beneficial in scenarios necessitating active learner engagement and enhanced communication and collaboration between educators and students.

Despite the recognized benefits of AR and GBL, there remains a gap in integrating these technologies specifically to foster creative problem-solving among students. Creative problem-solving is a crucial skill in the modern world, enabling individuals to navigate complex challenges and develop innovative solutions. However, traditional educational methods often fall short in effectively cultivating this skill, relying heavily on rote memorization and passive learning techniques. For undergraduate students in the field of computer multimedia, the challenge is twofold. Firstly, they must develop technical proficiency in multimedia tools and technologies. Secondly, they must cultivate creativity and problem-solving abilities to apply their technical skills effectively. The intersection of AR and GBL offers a promising avenue to address these educational needs, providing a dynamic and engaging platform that can simulate real-world scenarios and encourage creative thinking.

Based on the reasons, the researcher has envisioned an opportunity to impart Creative Problem Solving by presenting it through Augmented Reality Technology. By introducing a GBL model combined with AR, the concept of developing a Game-Based Learning Model Using Augmented Reality Technology to Promote Creative Problem Solving emerged. This research was inspired by the need to improve educational practices within the Computer Multimedia program and to explore the potential of AR and GBL as transformative tools in higher education. By integrating these technologies, this research aims to support the development of innovative educational strategies that not only equip students with technical skills but also foster creativity and problem-solving abilities.

Objectives

- 1) To develop Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving
- 2) To evaluate the quality of Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving
- 3) To assess the satisfaction of the sample with Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving

Literature Review

Game-Based Learning

Game-based learning represents an innovative educational strategy that harnesses the motivational elements inherent in video games to enrich learning outcomes. It involves designing educational games that optimize both enjoyment and learning (Nipo et al., 2023). Research have demonstrated that game-based learning has the potential to elevate learning proficiency across diverse domains, including logical-mathematical, naturalistic, and linguistic aptitudes (Ward, 2022). Research has particularly concentrated on assessing the efficacy of game-based learning within medical education, underscoring its comparable effectiveness to conventional instructional approaches. Additionally, it has been noted to provide heightened levels of engagement, interactivity, and enjoyment for students (Ribeiro et al., 2022). Additionally, game-based learning is recognized as a valuable tool for engaging the "Games Generations" in the workforce and educational settings, emphasizing its effectiveness across different age groups and industries (Ribeiro et al., 2022).

Augmented Reality Technology

Augmented Reality (AR) embodies an innovative technological advancement that merges virtual components with the tangible environment, consequently enhancing user experiences (Pronika et al., 2023). It enables the superimposition of virtual objects onto the physical environment, enriching interactions, and perceptions (Mujumdar, 2022). AR applications range from video games to IoT devices, offering benefits like increased security through target image verification (Phursule et al., 2023). This technology enables real-time interaction between physical and virtual entities, facilitating precise 3D placement and seamless integration of digital content into the physical environment (Permana et al., 2023). Moreover, AR finds extensive use in training scenarios, such as military operations and emergency medicine, by creating realistic simulations without the need for large-scale exercises. By combining AR with IoT, innovative solutions for controlling devices and home automation are being explored, showcasing the vast potential of this technology.

Creative Problem Solving

Creative Problem Solving (CPS) is a crucial sub-area of Artificial Intelligence (AI) that focuses on addressing off-nominal issues in autonomous systems (Gizzi et al., 2022). CPS involves problem formulation, knowledge representation, knowledge manipulation, and evaluation methods to tackle novel problems and adapt to changing environments (Lee et al., 2023). The CPS model includes fact-finding, idea-finding, and solution-finding procedures, emphasizing divergent and convergent thinking to enhance creativity and innovation (Nurrijal et al., 2023). Research highlights the similarities between problem solving and creativity, emphasizing the importance of mental processes in achieving desired outcomes (Fahrissa & Parmin, 2022). Implementing the CPS learning model has shown effectiveness in enhancing students' critical and creative thinking skills, as evidenced by experimental studies. In summary, Creative Problem Solving (CPS) significantly contributes to nurturing creativity, innovation, and adaptability across diverse domains.

Research Method

The researchers conducted the study in to 3 phases.

Phase 1: Develop Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving by studying conceptual frameworks, principles and theories from relevant documents and studies is shown in Figure 1. The process began by study and synthesis the necessary input component for the design of elements and process of game-based learning that apply to creative problem solving for learners, according to the research objective. After that the researchers use augmented reality technology as a tool to support learning management for students.

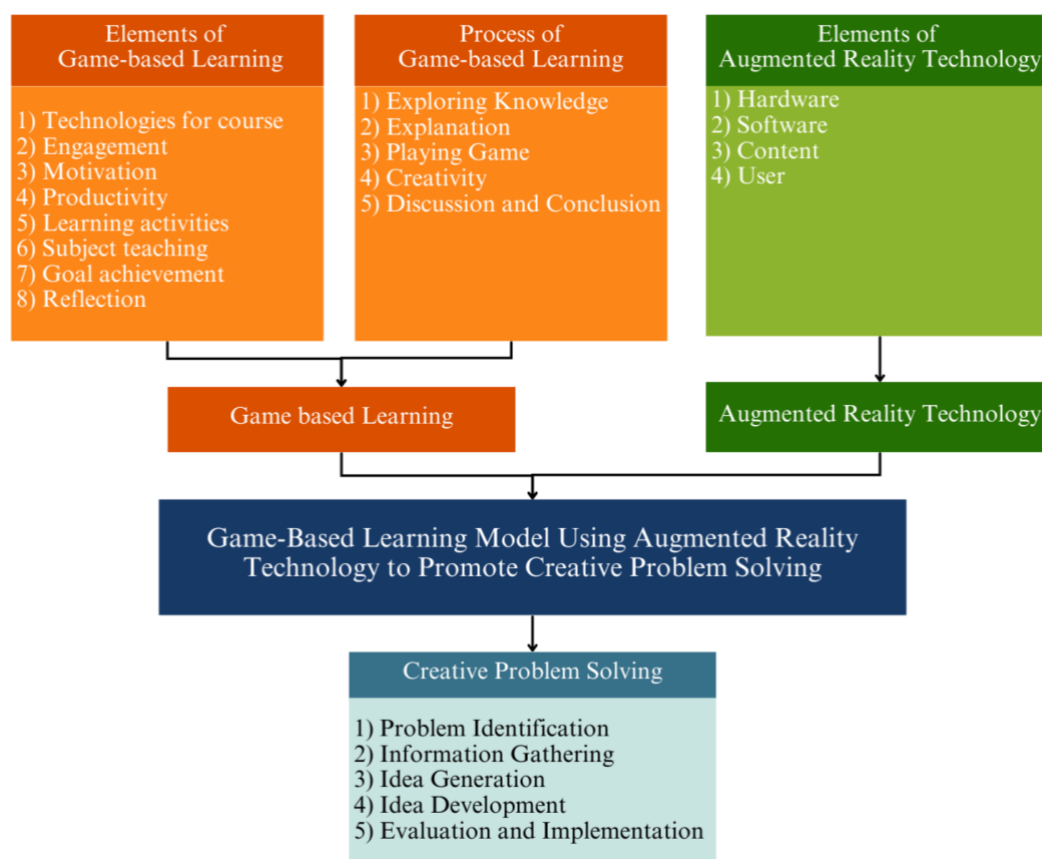


Figure 1: Conceptual Framework

The researcher develops the Game-Based Learning Model Using Augmented Reality Technology by analyzing the process synthesis of Game-Based Learning, Augmented Reality Technology, and Creative problem solving. The researchers summarize of the key process relevant and designs it as a model to show the relationships of Game-Based Learning Model Using Augmented Reality Technology (Figure 1). Such an approach facilitates individual learners in acquiring and applying creative problem-solving skills through tailored activities and processes, thereby fostering the development of abilities aligned with their specific learning objectives, goals, and potential.

Element of Game-based Learning, based on the study of Game-based Learning elements from 5 relevant documents, theories and research as detailed in Table 1.

Table 1: Synthesis of elements of Game-based Learning

Elements of Game-based Learning	Research				
	(Nipo et al., 2023)	(Ismaizam et al., 2022)	(Untari, 2022)	(Shohel et al., 2022)	(Baboo et al., 2022)
Technologies for course	/	/	/	/	/
Engagement	/	/	/	/	/
Motivation		/	/		/
Productivity	/	/		/	
Learning activities		/	/	/	/
Subject teaching	/	/	/		/
Goal achievement	/	/	/	/	
Reflection	/		/		/

From Table 1, the synthesis of summarizes the key elements of Game-based Learning consist of 8 elements, which are 1) Technologies for course 2) Engagement 3) Motivation 4) Productivity 5) Learning activities 6) Subject teaching 7) Goal achievement and 8) Reflection.

Process of Game-based Learning, based on the study of Game-based Learning process from 5 relevant documents, theories and research as detailed in Table 2.

Table 2: Synthesis of process of Game-based Learning

Process of Game-based Learning	Research				
	(Fernández-Raga et al., 2023)	(Himmawan & Juandi, 2023)	(Ribeiro et al., 2022)	(Uslu, 2022)	(Shaheen et al., 2022)
1. Exploring Knowledge	/	/		/	
2. Explanation	/		/		/
3. Playing Game	/	/	/	/	/
4. Creativity	/	/	/	/	/
5. Discussion and Conclusion	/	/	/	/	/

From Table 2, the synthesis of summarizes the key process of Game-based Learning consist of 5 processes, which are 1) Exploring Knowledge 2) Explanation 3) Playing Game 4) Creativity and 5) Discussion and Conclusion.

Phase 2: Evaluate the Quality of Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving by in-depth interviews with a detailing the steps and processes for 5 experts in education and information technologies. Utilize a 5-point Likert scale to assess the suitability of Game-Based Learning Model Using Augmented Reality Technology. Employ basic statistical methods, such as calculating the mean and standard deviation, to analyze expert evaluations.

Phase 3: Assess the satisfaction of the sample with Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving. The sample group consisted of 50 undergraduate students in the Bachelor of Science program, Applied Computer Science-Multimedia by voluntary selection method. A 5-point Likert scale is used to assess the satisfaction with the game-based learning model using Augmented Reality technology. Basic statistical methods, such as calculating the mean and standard deviation, are employed to analyze the sample group's evaluation.

Results

Model Development

Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving consist of several components. The initial element encompasses the process of Game-Based Learning, serving as the primary component of the model. It encompasses 5 primary steps: 1) Exploring Knowledge 2) Explanation 3) Playing Game 4) Creativity and 5) Discussion and Conclusion. These processes are designed to foster the attainment of learning objectives by all learners according to their individual potential. Each step further consists of sub-activities aimed at facilitating comprehensive learning experiences.

The second component is AR technology, containing AR learning environments of the online systems that can promote the Creative Problem-Solving learning process. The activities and steps can be taken AR through the online systems. There are 4 elements: 1) Hardware consists of display devices, sensors, and input devices 2) Software consists of AR platforms, development tools, learning applications 3) Content consists of 3D models, virtual content, interactive data. 4) User consists of students, teachers, developers.

The third component is Creative Problem Solving. This is a tool that drives learners to learn by themselves according to the model. It consists of 5 main elements: 1) Problem Identification 2) Information Gathering 3) Idea Generation and 4) Idea Development 5) Evaluation and Implementation. These are considered important tool that can work together to create an environment conducive to creative and effective problem solving in any situation and drive the Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving.

The 3 overarching components follow 5 steps according to the Game-based Learning process as follows.



Figure 2: Architecture of Game-Based Learning Model Using Augmented Reality Technology to Promote Creative Problem Solving

Game-Based Learning represent an intriguing educational management approach employed within the classroom setting to orchestrate learning endeavors. Game-Based Learning serves as an instructional methodology designed to invigorate student engagement in learning pursuits. Comprised of 5 sequential learning management phases 1) Exploring Knowledge 2) Explanation 3) Playing Game 4) Creativity and 5) Discussion and Conclusion, each phase contributes distinctively to the overall learning process with details as follows:

- 1) **Exploring Knowledge:** This initial phase of learning involves the teacher assessing the students' existing knowledge through a game of question and answer facilitated by digital learning tools.
- 2) **Explanation:** In the subsequent stage, the instructor introduces the game to the students and proceeds to allocate them into groups comprising 5 to 6 individuals, carefully mixed based on their proficiency levels: high, medium, and low. Following the division into groups, the teacher elucidates the game's mechanics, objectives, equipment features, and distributes corresponding worksheets to each group of learners.
- 3) **Playing Game:** In the third phase, the teacher prepares the playing area, ensuring it is conducive to gameplay. Subsequently, students engage in the game under the guidance of the teacher, who oversees adherence to the established rules. During this stage, the teacher closely monitors students' gameplay behaviors and records pertinent information conducive to their learning process. This data can be utilized for post-game discussions or assigned to certain students for observational purposes. Additionally, the teacher maintains control over the duration of gameplay.
- 4) **Creativity:** In the fourth phase, educators offer students opportunities to suggest or innovate new ideas for gameplay, such as devising novel rules aimed at enhancing enjoyment and complexity. This stage fosters an environment of creativity, encouraging the ongoing development of fresh games or activities, among other inventive endeavors.
- 5) **Discussion and Conclusion:** Step 5 represents a pivotal phase aimed at elucidating the educational impact of game-based learning to students, typically employing open-ended inquiries. The teacher initiates dialogue by posing questions designed to stimulate critical thinking. Examples include inquiries into gameplay dynamics, such as the strategies employed by winners, and the emotional responses elicited from both victors and losers. Additionally, questions pertaining to the acquisition and refinement of skills are posed, evaluating students' progress and attainment of desired objectives. Moreover, inquiries may extend to the identification of errors and strategies for improvement, or assessments of acquired knowledge through quizzes, diagrammatic representations, and summarization exercises. Subsequently, students are prompted to undertake assessments to consolidate their learning.

Results of Media Quality Assessment

The results of media quality assessment by 5 experts in the field of education and information technology are as follows:

Table 3: *The results of media quality assessment*

Item	Quality assessment level		
	X	S.D.	interpretation
Clarity of Information	4.80	0.45	very good
Accuracy and Credibility	4.60	0.55	very good
Relevance to Learning Objectives	4.20	0.84	good
Visual Presentation	4.80	0.45	very good
Interactivity	4.60	0.55	very good
Accessibility	4.60	0.55	very good
Technical Performance (AR)	4.80	0.45	very good
The duration is suitable	4.40	0.55	good
Total	4.60	0.55	very good

From Table 3, The result of overall quality of the media is at a very good level. The mean was 4.60 and the standard deviation was 0.55. When considering each topic, it was found that the topics Clarity of Information, Visual Presentation, Technical Performance (AR) had a very good level of quality. The mean was 4.80 and the standard deviation was 0.45. Topics: Accuracy and Credibility, Interactivity, Accessibility. The quality level is very good. The average is 4.60, the standard deviation is 0.55, the topic The duration is suitable has a good quality level. The topic has a mean of 4.40 and a standard deviation of 0.55. The topic Relevance to Learning Objectives has a mean of 4.20 and a standard deviation of 0.84.

Results of Satisfaction Assessment

The Assessment of satisfaction with Game-based Learning Model Using Augmented Reality Technology to promote Creative Problem Solving by 50 undergraduate students in the Bachelor of Science program, Applied Computer Science-Multimedia by voluntary selection method are as follows:

Table 4: *The results of satisfaction assessment of students*

Item	Satisfaction assessment level		
	X	S.D.	interpretation
The presentation of the content is engaging	4.60	0.76	highest
The content maintains consistent relevance and clarity	4.58	0.78	highest
The picture clarity is suitable	4.44	1.05	high
The character designs are aesthetically pleasing and appropriate	4.52	0.79	highest
The duration is suitable	4.44	0.81	high
The visual composition is aesthetically pleasing	4.80	0.45	highest
The font style and size are clear and appropriate	4.52	0.79	highest
The presentation of the media is intriguing	4.44	0.81	high
The media has the potential to motivate the audience	4.60	0.61	highest
The media encourages viewers to contemplate creative problem-solving	4.76	0.59	highest
Total	4.57	0.76	highest

From Table 4, The result of overall satisfaction is at the highest level with an overall mean of 4.57 and a standard deviation of 0.76. When considering each topic, it was found that the topic The visual composition is aesthetically pleasing had a very high level of satisfaction. has a mean of 4.80 and a standard deviation of 0.45. Topic: The media encourages viewers to contemplate creative problem-solving. There is a very high level of satisfaction. The average was 4.76 and the standard deviation was 0.59. The topic the media has the potential to motivate the audience had a very high level of satisfaction. The mean was 4.60 and the standard deviation was 0.61. The topic the presentation of the content is engaging had a very high level of satisfaction. The average was 4.60 and the standard deviation was 0.76. The content maintains consistent relevance and clarity had a very high level of satisfaction. The mean was 4.58 and the standard deviation was 0.78. The topic the character designs are aesthetically pleasing and appropriate, the font style and size are clear and appropriate had a very high level of satisfaction. The average was 4.52 and the standard deviation was 0.79. The topic the duration is suitable, the presentation of the media is interesting had a high level of satisfaction. has a mean of 4.44 and a standard deviation of 0.81. The topic the picture clarity is suitable has a high level of satisfaction. It has a mean of 4.44 and a standard deviation of 1.05.

Discussion and Conclusion

The research focused on the development and evaluation of a Game-Based Learning (GBL) model using Augmented Reality (AR) technology to promote creative problem-solving. The evaluation of the overall quality of the media yielded a mean score of 4.60 with a standard deviation of 0.55, indicating a very good quality level. This high level of quality was consistent across several specific criteria, including Clarity of Information, Visual Presentation, and Technical Performance (AR), all of which scored a mean of 4.80 with a standard deviation of 0.45. These results highlight the effectiveness of AR in enhancing the clarity and visual appeal of educational content, thus supporting learners in understanding complex concepts through immersive experiences. Furthermore, topics such as Accuracy and Credibility, Interactivity, and Accessibility also achieved very good quality ratings, each with a mean score of 4.60 and a standard deviation of 0.55. This indicates that the GBL model effectively provides accurate, credible information and engages learners through interactive AR elements that are accessible to a broad audience. However, the topic regarding the suitability of the duration received a slightly lower score, with a mean of 4.40 and a standard deviation of 0.55, suggesting that while the duration was generally well-received, there may be room for optimization to better meet the needs of all learners. The relevance to learning objectives scored the lowest among the evaluated topics, with a mean of 4.20 and a standard deviation of 0.84, indicating that aligning AR content more closely with specific learning goals could enhance the educational value of the media.

The overall satisfaction with the GBL model was at the highest level, with an overall mean of 4.57 and a standard deviation of 0.76. The visual composition is aesthetically pleasing was particularly praised, scoring a mean of 4.80 and a standard deviation of 0.45, underscoring the importance of aesthetics in educational media. Additionally, the media encourages viewers to contemplate creative problem-solving received a very high satisfaction score of 4.76 with a standard deviation of 0.59, reflecting the success of the AR-enhanced GBL model in fostering critical thinking and creativity among learners. Other topics, such as the media's potential to motivate the audience, content engagement, and the consistency of relevance and clarity, also received very high satisfaction ratings, all above 4.50. This demonstrates that the AR-based GBL model not only captures the learners' attention but also maintains their

interest and motivation throughout the learning process. The slightly lower satisfaction ratings for the suitability of the duration (mean of 4.44, standard deviation of 0.81) and picture clarity (mean of 4.44, standard deviation of 1.05) suggest areas where improvements can be made to enhance learner satisfaction further.

In conclusion, the Game-Based Learning model utilizing Augmented Reality technology proved to be highly effective in delivering high-quality educational media that promotes creative problem-solving. The findings indicate that the integration of AR enhances both the quality and satisfaction levels of educational content. However, to further improve the GBL model, attention should be given to optimizing the duration of the media and ensuring that the content aligns closely with learning objectives. Future research could explore these aspects in more depth, potentially leading to even more effective and engaging educational experiences using AR technology.

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References

- Baboo, S., Kanna, Y., & Bennett, C. N. (2022). *A Systematic Review on the Neuro-Cognitive Correlates of Game-Based Learning in Higher Education Learning Environments* (pp. 58–77). <https://doi.org/10.4018/978-1-7998-7271-9.ch004>
- Fahrisa, N., & Parmin, P. (2022). Creative Problem Solving (CPS) Learning to Improve Ability an Strudent's Critical and Creative Thinking on Science Materials. *Journal of Environmental and Science Education*, 2(2), 98–105. <https://doi.org/10.15294/jese.v2i2.55641>
- Fernández-Raga, M., Aleksić, D., İkiz, A. K., Markiewicz, M., & Streit, H. (2023). Development of a Comprehensive Process for Introducing Game-Based Learning in Higher Education for Lecturers. *Sustainability*, 15(4), 3706. <https://doi.org/10.3390/su15043706>
- Gizzi, E., Nair, L., Chernova, S., & Sinapov, J. (2022). Creative Problem Solving in Artificially Intelligent Agents: A Survey and Framework. *Journal of Artificial Intelligence Research*, 75. <https://doi.org/10.1613/jair.1.13864>
- Himmawan, D. F., & Juandi, D. (2023). Games based learning in mathematics education. *Union: Jurnal Ilmiah Pendidikan Matematika*, 11(1), 41–50. <https://doi.org/10.30738/union.v11i1.13982>
- Ismaizam, N. M., Abd. Rahman, S. F., Syed Mohamad Ahmad, S. N., Mohd Nazri, N. I. I., Idris, N. A. A., Ali, N. A., Mohamad Rafi, N. F. B., Mohamad, S. N. A., Abdul Rahim, A. A., Abdul Rashid, K. K., & Mohammed Abdulwahab Aldaba, A. (2022). An Integration of Game-based Learning in a Classroom: An Overview (2016 - 2021). *International Journal of Academic Research in Progressive Education and Development*, 11(1). <https://doi.org/10.6007/IJARPED/v11-i1/12347>
- Lee, T., O'Mahony, L., & Lebeck, P. (2023). Creative Problem-Solving. In *Creativity and Innovation* (pp. 117–147). Springer Nature Singapore. https://doi.org/10.1007/978-981-19-8880-6_5
- Maratou, V., Ennami, F., Luz, F., Abdullahi, Y., Medeišienė, R. A., Ščiukauskė, I., Chaliampalias, R., Kameas, A. D., Sousa, C., & Rye, S. (2023). GAME-BASED LEARNING IN HIGHER EDUCATION USING ANALOGUE GAMES. *International Journal of Film and Media Arts*, 8(1), 68–83. <https://doi.org/10.24140/ijfma.v8.n1.04>
- Mujumdar, O. (2022). Augmented Reality. *International Journal for Research in Applied Science and Engineering Technology*, 10(12), 487–495. <https://doi.org/10.22214/ijraset.2022.47902>
- Nipo, D., Gadelha, D., Silva, M. da, & Lopes, A. (2023). Game-Based Learning: Possibilities of an Instrumental Approach to the FEZ Game for the Teaching of the Orthographic Drawings System Concepts. *Journal on Interactive Systems*, 14(1), 231–243. <https://doi.org/10.5753/jis.2023.3190>

- Nurrijal, Punaji Setyosari, Dedi Kuswandi, & Saida Ulfa. (2023). Creative Problem Solving Process Instructional Design in the Context of Blended Learning in Higher Education. *Electronic Journal of E-Learning*, 21(2), 80–97. <https://doi.org/10.34190/ejel.21.2.2653>
- Permana, R., Eka Praja Wiyata Mandala, & Dewi Eka Putri. (2023). Augmented Reality dengan Model Generate Target dalam Visualisasi Objek Digital pada Media Pembelajaran. *Majalah Ilmiah UPI YPTK*, 7–13. <https://doi.org/10.35134/jmi.v30i1.143>
- Phursule, R., Sirpor, K., Virmalwar, P., Zadbuke, S., & Avachat, P. (2023). Augmented Reality Snipping Tool. *2023 4th International Conference for Emerging Technology (INCET)*, 1–4. <https://doi.org/10.1109/INCET57972.2023.10170651>
- Pronika, Mudgal, D., & Yati, G. (2023). Augmented Reality for Advanced Home Applications. *2023 5th International Conference on Smart Systems and Inventive Technology (ICSSIT)*, 118–123. <https://doi.org/10.1109/ICSSIT55814.2023.10060904>
- Ribeiro, L. H. de F., Germano, V. E., Bruno, L. P., Freire, M. L. B., Nascimento, E. G. C. do, & Fernandes, T. A. A. de M. (2022). Game-based learning como estratégia de ensino e aprendizagem no ensino médico. *Research, Society and Development*, 11(12), e02111232183. <https://doi.org/10.33448/rsd-v11i12.32183>
- Shaheen, A., Halvorsen, F., & Fotaris, D. P. (2022). A Reflective Game Design framework for Game-Based Learning. *European Conference on Games Based Learning*, 16(1), 758–765. <https://doi.org/10.34190/ecgbl.16.1.876>
- Shohel, M. M. C., Ashrafuzzaman, Md., Naomee, I., Tanni, S. A., & Azim, F. (2022). *Game-Based Teaching and Learning in Higher Education* (pp. 78–106). <https://doi.org/10.4018/978-1-7998-7271-9.ch005>
- Untari, A. D. (2022). Game Based Learning: Alternative 21st Century Innovative Learning Models in Improving Student Learning Activeness. *Edueksos Jurnal Pendidikan Sosial & Ekonomi*, 11(2). <https://doi.org/10.24235/edueksos.v11i2.11919>
- Uslu, H. (2022). Oyun Temelli Öğrenme Süreçlerinin Akademik Başarı Üzerindeki Etkilerinin İncelenmesi. *Journal of Social Research and Behavioral Sciences*, 8(16), 816–828. <https://doi.org/10.52096/jsrbs.8.16.57>
- Ward, S. (2022). *Game-Based Learning* [Boise State University]. <https://doi.org/10.18122/td.2040.boisestate>
- Wardia, W., Setyosari, P., & Ulfa, S. (2022). Efektivitas Penggunaan Game Based Learning Untuk Meningkatkan Hasil Belajar Hukum Bacaan Tanwin Siswa Kelas VII SMP. *JKTP: Jurnal Kajian Teknologi Pendidikan*, 5(4), 337. <https://doi.org/10.17977/um038v5i42022p337>

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Democracies Degraded by Disinformation: Lessons From Hungary, the U.S., and the U.K.

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Abstract

Democratic backsliding has been a growing concern globally. The literature on democratic backsliding and the literature on disinformation have grown exponentially, but hitherto developed separately. This paper provides a unique contribution to the existing literature by exploring the interactions between the two phenomena. We present a framework that describes this as a cycle of disinformation and democratic backsliding. Through our analysis of disinformation's impact on democracies, we argue that disinformation can accelerate democratic erosion, which in turn can further exacerbate the spread of harmful disinformation. With the cycle of disinformation and democratic backsliding as its framework, the paper analyzes three countries that are facing different levels of crisis (Hungary, the U.S., and the U.K.). Hungary was selected as an autocratizing democracy, the U.S. as a democracy facing serious challenges to its institutions, and the U.K. as a liberal democracy managing to contain the disinformation threat. We demonstrate that different levels of democratic backsliding are linked with varied levels of institutional capture by disinformation. In the case of Hungary, we find that disinformation has managed a complete institutional capture in a country with pre-existing issues of democratic backsliding, leading it to be trapped in a vicious cycle within the framework. The U.S. shows partial capture, as it struggles with an unregulated information and media environment, coupled with institutional and media distrust. The U.K. managed to contain the threat of disinformation and avoid democratic backsliding, but remains vulnerable against the threat of the "engagement trap".

Keywords: Disinformation, Democratic Backsliding, Hungary, U.S., U.K.

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Introduction

Disinformation poses an acute problem to liberal democracies in particular. This is because liberal democracies rely on institutions such as media, judiciary, legislature, and elections for their healthy functioning (Levitsky & Way, 2002). Beyond the impact on institutions, disinformation poses a threat to democratic norms (Diamond, 2019), which in and on itself is a key national security interest of liberal democracies (Tallies, 2022). Addressing this issue this year is of particular importance considering the fact that 2024 has been called “the election year”, in which half of the world’s population lives in a country that is holding an election (Koh, 2023). The paper contributes to the burgeoning literature on democratic backsliding and disinformation by presenting the two elements as a cycle. This cycle of disinformation and democratic backsliding forms a key framework for our three case studies, namely Hungary, the United States [U.S.], and the United Kingdom [U.K.].¹ This paper argues that the different levels of democratic backsliding manifests in the different levels of institutional capture achieved by disinformation. In other words, we identify institutional robustness as the key to understanding how disinformation is spread. Our preliminary findings show that in autocratizing states like Hungary, disinformation manages a complete capture of the institution. This, we argue, is what left the Hungarian government vulnerable against foreign actors that sought to weaponize domestically produced disinformation in a fragmented society. In states at potential risk of democratic backsliding such as the U.S., there is partial institutional capture due to its domestic political environment. States that have managed to avoid backsliding like the U.K. do not suffer from institutional capture, but remain under threat by specific disinformation tactics such as the “engagement trap”.

Literature Review: Democratic Backsliding and Disinformation

Democratic backsliding is an incremental process in which democratic values and institutions steadily erode (Waldner & Lust, 2018), and it is a phenomenon that has weakened the functioning of democracies around the world (Levitsky & Way, 2002). Relatively speaking, Europe had a greater number of countries that underwent some level of democratic backsliding in the last several years (Varieties of Democracy, 2023). While debate continues over the precise measurement of democratic backsliding (Little & Meng, 2024), this paper adopts a relatively broad definition. For this paper, we use the Liberal Democratic Index [LDI] score from the Varieties of Democracy (2023) in categorizing democratic backsliding. While not a perfect measure, the LDI offers a useful tool for international comparison and allows us to categorize the three case studies in terms of their stages of democratic backsliding. As for the three case studies in this paper, Hungary is a textbook case of democratic backsliding (Boese et al., 2022). Hungary, once celebrated as a successful transition to liberal democracy, is now recognized as an electoral autocracy (European Parliament, 2022). The second case study, the U.S., suffers from political polarization and a degradation in trust of institutions. While this has not resulted in the level of democratic backsliding seen in Hungary, an increasing number of studies and indicators suggest the U.S. is no longer a consolidated democracy (Schedler & Bor, 2024). The U.K. differs from the other two case studies as it managed to maintain its standing as a liberal democracy despite the turbulent years caused by Brexit. In short, the three case studies respectively show the different stages of democratic backsliding. Hungary is autocratizing, the U.S. finds itself in a state of institutional distrust, and the U.K. has managed to contain the risk of democratic backsliding.

¹ This is a working paper based on an ongoing research project on disinformation by the authors.

In terms of the literature on disinformation, it has been increasing in volume as well as the number of disciplines involved. A keyword search of “disinformation” on Web of Science (which boasts more than 2.2 billion cited references in its database (Clarivate, 2024)) yields a total of 3,946 publications, of which 23.24 percent was published in 2022 alone. Using the same data, in terms of the subject field, disciplines such as communication tops the chart with the most cited works (Web of Science, 2024). However, political science still makes it to the top five disciplines reflecting the political nature of disinformation (Web of Science, 2024). Despite such growing interest, in large-scale comparative analysis, the political realities of individual states tend not to be the focus of the disinformation research (Zilinsky et al., 2024). This paper attempts to address this gap in literature by focusing on the wider socio-political aspects of each select case studies.

Disinformation is defined as information that has the intent to mislead and increases the likelihood of “*false beliefs*” to form (Fallis, 2015). As to how disinformation works, it is characterized by its ability to spread faster online than the truth (Vosoughi et al., 2018), a fact made acute on social media which operates on the basis of an “attention economy” which deliberately attempts to retain the attention of its audience using sensational content (Williams, 2018). The aim of disinformation is to make people incapable of trusting any information by overwhelming targets with a “firehose of falsehood” (Paul & Matthews, 2016). Disinformation is also not perfect and crafted by pragmatists who prioritize quantity over quality (Rid, 2020). Disinformation is hard to combat for several reasons. Firstly, identifying the source can be difficult. The most egregious kinds of disinformation are confined to the niche with limited reach, but if it manages to overcome this limitation by being picked up and spread by the mainstream media, it can reach a larger audience (Fletcher et al., 2018). Secondly, when the disinformation comes from a trusted source or if it confirms pre-existing biases, people are more likely to believe it (Fletcher et al., 2018). Thirdly, disinformation is not necessarily made up of total lies, but can often contain several small lies, making it harder to debunk (Rid, 2020). This paper will add to this existing literature on disinformation to argue that in democracies, the difference in institutional vulnerabilities also influences how disinformation manifests.

The Cycle of Democratic Backsliding and Disinformation

The authors have developed a framework that reflects the complex relationship between disinformation and democratic backsliding. As noted above, democratic backsliding does not happen instantly, but a result of incremental erosion (Bermeo, 2016; Waldner & Lust, 2018). Democratic backsliding also does not happen in a vacuum, but requires actors that become the agents in the process of democratic erosion (Druckman, 2024, p. 6). The process is not necessarily linear (Wolkenstein, 2023, p. 68) and institutions themselves could form barriers or enable democratic backsliding (Gora & de Wilde, 2022). Previous studies have found that disinformation on its own is not necessarily the source of polarization, but it exploits pre-existing political cleavages which result in greater polarization (Lanoszka, 2019). Polarization also requires a trigger, which could come from either institutions or individual actors. For disinformation to spread, it needs both actors to wittingly disseminate it and an environment that enables its spread. Figure 1 attempts to express this relationship between disinformation and democratic backsliding by presenting it as a cycle rather than a one-way causal link.

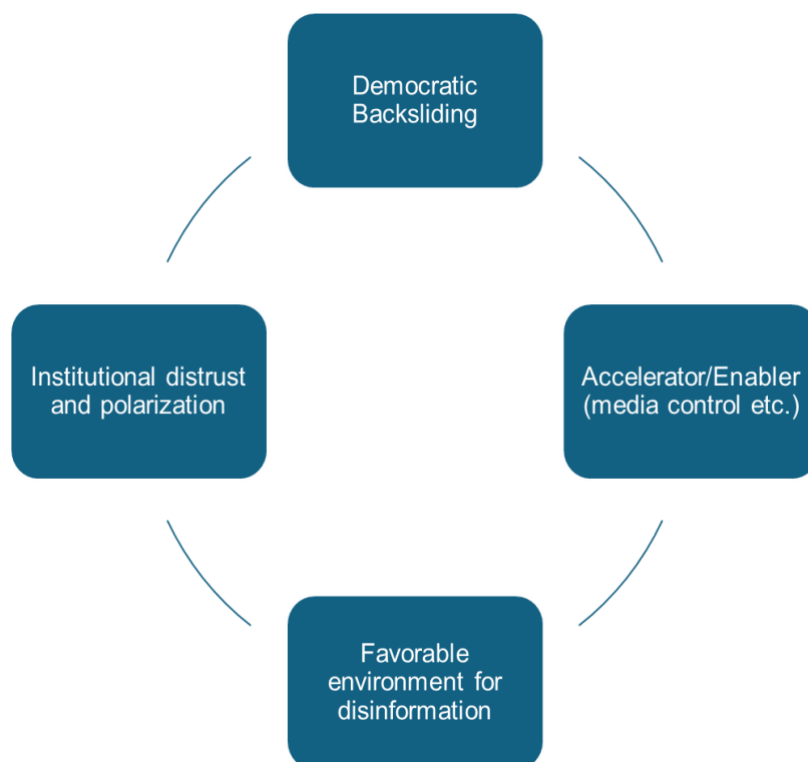


Figure 1: The Cycle of Democratic Backsliding and Disinformation.

The cycle works as a framework to be used in different democratic countries, and we exemplify this by applying it to three democracies that are undergoing different levels of democratic backsliding (Hungary, the U.S., and the U.K.). By applying this framework, we show that the extent and nature of democratic backsliding in a country will have an impact on the role and powers of said country's institutions. The accelerator/enabler consists of factors such as regulations over disinformation (or its lack thereof), the role of media, and the power of political parties. In other words, the accelerators/enablers can shape an environment that makes disinformation easier or harder to spread. For example, social media platforms have helped shape an echo chamber which accelerates the spread of disinformation (Bakir & McStay, 2018). This example highlights how the information space can be unregulated and developed in such a way that creates a favorable environment for the spread of disinformation. On the other hand, countries that have robust liberal democratic institutions have stricter regulations and an independent media, which can obstruct the spread of disinformation.

Such differences will determine whether the environment is favorable for the spread of disinformation or not. This then influences the levels of public trust towards democratic institutions and creates a public discourse that is either highly polarized or more cohesive depending on the spread of disinformation (McKay & Tenove, 2021). Considering the fact that studies have found that disinformation such as fake news damages public trust toward both the government and media (Ipsos MORI, 2019), we argue that disinformation clearly influences public trust toward democratic institutions. Finally, there is a danger that such institutional distrust and polarization could accelerate democratic backsliding by decreasing the perception of electoral fairness and increasing the number of voters who tolerate political violence and authoritarian leaders (Washida, 2021). In short, this cycle shows how disinformation can lead to further democratic backsliding, and in turn that democratic backsliding creates a fertile ground for the spread of disinformation.

Using a case study approach, this paper discusses three countries (Hungary, the U.S., and the U.K.) that are at different stages of this cycle and are facing different levels of institutional capture from disinformation. In the case of Hungary, its process of a government-led autocratization has led to the complete institutional capture by disinformation, leading to the rampant use of disinformation within its domestic politics which makes it vulnerable to the threat from external actors who seek to weaponize such domestically produced disinformation. This places Hungary firmly within this cycle of democratic backsliding and disinformation. On the other hand, the U.S. suffers from partial capture of disinformation, as the increase in institutional distrust and unregulated media environment can help disinformation to spread. However, since it is a *partial* capture, the U.S. differs from the case of Hungary in that there is no direct government control of media content as there is in Hungary. The U.K. shows a clear lack of institutional capture due to the lack of polarization as seen in the U.S., and its democratic institutions remain robust compared to that of Hungary. This creates a relatively difficult environment for disinformation to spread, but such advantages may be weakened if the disinformation makes use of the “engagement trap” which is a specific form of disinformation that weaponizes both positive and negative engagement to amplify its spread. The remainder of the paper will present each case study and explore how its domestic political contexts explain its relationship and approach to disinformation.

Hungary

After the collapse of the Soviet Union, Hungary was once celebrated as a successful transition to liberal democracy. However, Orbán’s second administration has promoted an “illiberal democracy” by “forging, bending, and breaking” democratic institutions, such as the judiciary, media, and electoral systems, while continuing to receive subsidies and maintaining its membership in the European Union [E.U.] (Bíró-Nagy, 2017; Bozóki & Hegedűs, 2018; Pirro & Stanley, 2022).

Hungary’s path in democratic backsliding was evident by the Orbán government’s successful attempts to curtail media freedom initially through regulatory control and further through ownership control (Culloty & Suiter, 2021). The first Orbán government, between 1998 and 2002, targeted state media, reflecting the media environment of the time, which tended to favor coverage of the ruling party (Bajomi-Lázár, 2003). However, during his second administration, the approach shifted to ownership control to further restrict media freedom. For example, the conservative-leaning TV station and media such as Hir TV and Magyar Nemzet, which were owned by Orbán’s close political ally Lajos Simicska, began to succumb under government pressure once Simicska became Orbán’s political opponent. Origo was later folded under the Central European Press and Media Foundation [KESMA], a foundation established by Fidesz, the current majority party, in 2018 (Griffen, 2020). Magyar Nemzet was also forced to cease publication in 2018, and in the following year, 2019, the name of the magazine was ‘taken over’ by KESMA-owned Magyar Idők. It was not just conservative media outlets, but also independent ones that came under political pressure. Origo’s editor-in-chief, Gergo Saling, was fired in 2014, and by 2018, Origo also came under the control of KESMA. In 2020, Szabolcs Dull, the editor-in-chief of Index.hu, was also dismissed.

In recent years, these controlled media organizations disseminated disinformation from the Orbán government (Bleyer-Simon & Krekó, 2023). For example, in the 2022 parliamentary election, Hungarian government officials, including the Prime Minister, spread disinformation concerning economic issues and the war in Ukraine. This disinformation

included claims such as “[t]he Left would abolish the utility cost cuts” or “the Left would send weapons and soldiers to Ukraine, thus dragging Hungary into war”, which were frequently parroted by formerly independent, conservative as well as liberal media, such as *Magyar Nemzet* and *Origo* (Political Capital, 2022). Thus, the lack of media independence has led to these media outlets being used as vehicles to spread disinformation that is supported by the Hungarian government.

Furthermore, some Hungarian-made disinformation has been adopted by other authoritarian regimes overseas (Takacsy, 2023). A prime example of this is the story that ethnic Hungarians in Transcarpathia are forcefully conscripted to fight in the Ukraine war. This was repeatedly reported by a pro-Orbán media *Pesti Srácok* (Füßy, 2023), despite it being debunked as disinformation by Ukrainian *Espresso TV* (*Espresso TV*, 2023). This news was then picked up by Russian media such as *TASS* (Takacsy, 2023) and *Russia Today* (now *RT*) (*Russia Today*, 2023). Thus, rather than a simple import and export of disinformation, external actors such as Russia are actively weaponizing an environment that is ripe for disinformation to spread.

Disinformation in Hungary has contributed to growing distrust and polarization, increasing the risk of further democratic backsliding in the country. A survey by the Reuters Institute demonstrated that trust in the media in Hungary has significantly declined over the years, with Hungary now ranking the lowest in public trust toward the media (Szakács & Bognar, 2023). This situation has also exacerbated political polarization. More Hungarians, particularly among conservative *Fidesz* voters, now believe that “politics is ultimately a struggle between good and evil,” a Manichean belief (a “us-versus-them, good-versus-evil worldview” (Çinar et al., 2020)) that has grown when comparing the results of 2018 and 2022 (Krekó et al., 2018).

Such high levels of distrust towards Hungary’s democratic institutions has severely weakened its functioning, and this in turn has led to an environment in which disinformation is more easily spread. In short, the government has tightened its control over the media in the process of democratic backsliding, and this has led to the spread of disinformation. Such spread of disinformation has further polarized public discourse and heightened public distrust towards its democratic institutions, which results in further danger of democratic backsliding, leading to a vicious cycle.

The U.S.

The U.S. 's case presents a clear case of the dangers of disinformation when there is pre-existing distrust in public institutions and news media. As of 2023, 59% of Americans had “not very much or no” confidence in the executive branch (J. M. Jones, 2023). The last time a majority of Americans had trust in the government was 2001 (Bell, 2023). Such high levels of distrust embolden actors both foreign and domestic to produce and disseminate disinformation that can further erode trust (Lanoszka, 2019). On the other hand, Americans express a growing distrust of media - 50% of respondents in a 2022 Gallup poll stated they believed news organizations intentionally “mislead, misinform, and persuade the public” (Gallup Inc & Knight Foundation, 2023). When divided by political party affiliation, Republicans distrust news at a significantly higher rate than Democrats (86% vs 29%)

(Brenan, 2022).² These trends can push the public to alternative outlets or platforms such as social media where disinformation can spread more quickly due to the lack of fact-checking or other content regulations.

Unlike Hungary, in the case of the U.S., the government does not directly control media outlets and their content. However, the lack of regulations on technology giants certainly serves as an ‘accelerator’ and ‘enabler’ where disinformation shared on social media platforms can quickly spread to millions of users. With half of Americans getting their news on social media regularly, these platforms have an immense capacity to influence what information or disinformation reaches Americans (Pew Research Center, 2023).³ Currently, the U.S. has not established any legislation to make these technology platforms liable for publishing content as the content is primarily uploaded by users i.e. third parties (Brannon & Holmes, 2024). Unlike newsrooms that publish their own content, this means social media companies are not held legally liable for the spread of disinformation on their platforms. As the country where most of the top technology companies are based, it is imperative for U.S. lawmakers to incentivize these companies to take steps to curb the spread of disinformation and inauthentic content on their platforms.

At a time when there is great political polarization in the U.S., divides may only be exacerbated by the lack of public trust in government institutions and traditional media outlets. Still, aside from the tighter regulation of private firms, the public sector must also be engaged to manage the spread of disinformation. Although the federal government may have some distrust baggage with the public, state and local governments still hold a higher sense of trust among their constituents. This makes them ideal actors in rolling out new initiatives such as mandatory media literacy education in public schools and funding fact-checking for local newsrooms and NGOs that can help deliver accurate and reliable news to the public.

The U.S. case shows the complexity of the disinformation challenge when the platforms with accurate information and the federal government who can make sweeping changes are both distrusted. When the federal government does attempt to tackle the disinformation threat such as was in the case with the Department of Homeland Security’s Digital Governance Board, it is seen as partisan or dictatorial. Therefore, trusted actors need to step in to prevent further decay of institutional distrust. Such regulatory and local government efforts are crucial forms of intervention to prevent the U.S. from moving further in the cycle of democratic backsliding.

The U.K.

The U.K. differs from the previous two case studies in that it is a democracy that has managed to avoid democratic backsliding. It is thus a democracy that has overcome challenges, such as the political divisions that came to the forefront of British politics during the Brexit debate. The main difference between the U.K. and the other two cases is the fact that its institutions do not suffer from a complete capture by disinformation. Lack of democratic backsliding, a robust media landscape, and a lack of political polarization combined create a tentative shield against the threat of disinformation. Despite this, the U.K.

² A Gallup poll published in 2022 found that republicans had “not very much” (29%) or “none at all [trust]” (57%) in mass media. Meanwhile, 19% of democrats expressed having “not very much trust”, and 10% “none at all” trust in the media (Brenan, 2022).

³ As of 2022, public surveys found 50% of Americans consumed news on social media either “often” (17%) or “sometimes” (33%) (Pew Research Center, 2023).

remains vulnerable to the strategic use of disinformation which this paper calls the “engagement trap”. This concept draws from both the academic literature on disinformation and empirical findings from the U.K. As such, while the analysis here is that of the U.K., the “engagement trap” has wider generalizability and relevance in other country contexts. As the literature review shows, disinformation is often poorly thought out, poorly targeted, and not very sophisticated (Paul & Matthews, 2016; Rid, 2020). On the other hand, disinformation manages to capture the public if it is closely aligned with pre-existing biases (Fletcher et al., 2018). The “engagement trap”, similar to how social media tries to maintain the attention of its audience (Williams, 2018), is a type of disinformation that flourishes under greater attention, regardless of whether the nature of the attention is positive or negative.

The claim that “£350 million per week” which goes to the E.U. would be better served if it is used for the National Health Services [NHS] is a prime example of such disinformation. This claim was made during the 2016 E.U. referendum by the Vote Leave campaign. Even after multiple attempts at debunking this claim, it stubbornly remained in the public consciousness (The Policy Institute, 2018). The major problem with this claim from the perspective of the Remain side was that it used official data. Similar to how it is harder to debunk disinformation which contains multiple small lies (Rid, 2020), disinformation that is based on official data forces opponents into using said data to try and debunk the claim. By trying to challenge the claim by focusing on the actual figure of money going to the E.U., it inadvertently brings the figure to greater focus. By arguing that the figure is closer to “£250 million” (Full Fact, 2017), it actually confirms the pre-existing bias (Fletcher et al., 2018) that millions of pounds are being sent to the E.U.

Incidentally, this tactic continues to be deployed in the 2024 general election campaign, with the Conservative Party claiming that the Labour Party will “raise taxes by £2,000 per working household” if they are elected to office (L. Jones & Whannel, 2024). This figure was claimed to come from “independent Treasury officials” (L. Jones & Whannel, 2024). The comparison between the two claims, which used official data with a twist, was not lost to commentators (Shipman, 2024). Thus, there are still active examples of the “engagement trap” being deployed. While this may seem to lead to the kind of public distrust that occurred in the US, several factors make the U.K.’s case different.

In terms of public trust, the U.K. public shows comparatively high levels of trust towards its public media such as the *BBC*. 61% of British respondents trust the *BBC*. In addition, there is a healthy level of trust in the U.K. government among the public, according to the World Values Survey (Haerpfer et al., 2022). Although during the Brexit debate, the electorate was divided quite neatly between Remain and Leave supporters (SurrIDGE, 2019), the U.K. has not suffered the levels of polarization seen in countries like the U.S. (Boxell et al., 2024). This means the U.K. lacks the kind of institutional distrust that leads to democratic backsliding. Data on the liberal democratic index of the U.K. from V-Dem shows that the U.K. has managed to avoid the kind of democratic backsliding that the U.S., and especially Hungary, have suffered from (Varieties of Democracy, 2023).

In terms of regulatory responses, the U.K. has taken a leading role in developing an international response to the threat of disinformation. In 2022, it banned Russian propaganda sources such as *RT* and *Sputnik* in response to the invasion of Ukraine in 2022. In 2023, it introduced the Online Safety Act which gives the power to fine global companies that fail to adhere to online content regulations (Online Safety Act, 2023). While at the moment limited to illegal materials (Online Safety Act, 2023), this presents at least an attempt to bring some

form of regulation over online content. In short, out of the three case studies, the U.K. has managed to maintain relatively high levels of public trust, avoid severe polarization, take a leading role in tackling disinformation, and avoid democratic backsliding.

Conclusion

This paper began with a brief literature review on democratic backsliding and disinformation. Based on this, the paper proposed the cycle of disinformation and democratic backsliding as a framework to make sense of the different manifestations of disinformation in three select case studies, namely Hungary, the U.S., and the U.K. Through the case studies, we showed that Hungary, which underwent substantive levels of democratic backsliding, is trapped in a vicious cycle of disinformation and democratic backsliding. The government tightening its control over the media fostered a more favorable environment for disinformation to spread, and this has bred further distrust among the public. Thus, Hungary presents the most typical example of the cycle of the interlocking relationship between democratic backsliding and disinformation. The U.S. example shows how institutional distrust and an unregulated information and social media environment can inhibit an effective government response against disinformation. Without adequate regulation and further political polarization of the public, Americans will remain acutely vulnerable to disinformation. The U.K. showcases an example of a country that has managed to avoid the entrapment of the cycle, owing to the robust democratic institutions, lack of polarization, and introduction of regulations aimed at tackling the threat of disinformation. However, disinformation tactics such as the “engagement trap” indicate the continued threat of disinformation. Therefore, the cycle of disinformation and democratic backsliding may serve as a useful framework in future studies to assess the vulnerabilities of democracies, and in particular, liberal democracies.

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References

- Bajomi-Lázár, P. (2003). *Freedom of the Media in Hungary, 1990–2002* (Doctoral dissertation, Central European University, Vienna, Austria). Retrieved from https://politicalscience.ceu.edu/sites/politicalscience.ceu.hu/files/basic_page/field_attachment/bajomithesisedited.pdf
- Bakir, V., & McStay, A. (2018). Fake News and The Economy of Emotions. *Digital Journalism*, 6(2), 154–175. <https://doi.org/10.1080/21670811.2017.1345645>
- Bell, P. (2023, September 19). Public Trust in Government: 1958-2023. *Pew Research Center*. <https://www.pewresearch.org/politics/2023/09/19/public-trust-in-government-1958-2023/>
- Bermeo, N. (2016). On Democratic Backsliding. *Journal of Democracy*, 27(1), 5–19. <https://doi.org/10.1353/jod.2016.0012>
- Bíró-Nagy, A. (2017). The Visegrad Group and the Risk of Disintegration. In P. Morillas (Ed.), *Illiberal Democracy in Hungary: The Social Background and Practical Steps of Building an Illiberal State* (pp. 31–44). Center for International Affairs.
- Bleyer-Simon, K., & Krekó, P. (2023). *Disinformation Landscape in Hungary*. EU Disinfo Lab. https://www.disinfo.eu/wp-content/uploads/2023/06/20230521_HU_DisinfoFS.pdf
- Boese, V. A., Alizada, N., Lundstedt, M., Morrison, K., Natsika, N., Tai, H., & Lindberg, S. I. (2022). *Autocratization Changing Nature? Democracy Report 2022*. Varieties of Democracy Institute. https://v-dem.net/media/publications/dr_2022.pdf
- Boxell, L., Gentzkow, M., & Shapiro, J. M. (2024). Cross-Country Trends in Affective Polarization. *The Review of Economics and Statistics*, 106(2), 1–60. https://doi.org/10.1162/rest_a_01160
- Bozóki, A., & Hegedűs, D. (2018). An externally constrained hybrid regime: Hungary in the European Union. *Democratization*, 25(7), 1173–1189. <https://doi.org/10.1080/13510347.2018.1455664>
- Brannon, V. C., & Holmes, E. N. (2024). *Section 230: An Overview*. Congressional Research Service. <https://crsreports.congress.gov/product/pdf/R/R46751>
- Brenan, M. (2022, October 18). *Americans' Trust In Media Remains Near Record Low*. Gallup. <https://news.gallup.com/poll/403166/americans-trust-media-remains-near-record-low.aspx>
- Çinar, I., Stokes, S., & Uribe, A. (2020). Presidential Rhetoric and Populism. *Presidential Studies Quarterly*, 50(2), 240–263. <https://doi.org/10.1111/psq.12656>
- Clarivate. (2024, February 15). *Web of Science Platform*. <https://clarivate.com/products/scientific-and-academic-research/research-discovery-and-workflow-solutions/webofscience-platform/>

- Culloty, E., & Suiter, J. (2021). Media Control and Post-Truth Communication. In A. Sajó, R. Uitz, & S. Holmes, *Routledge handbook of illiberalism* (1st ed., pp. 365–383). Routledge.
- Diamond, L. (2019). *Ill Winds: Saving Democracy from Russian Rage, Chinese Ambition, and American Complacency*. Penguin Publishing Group.
- Druckman, J. N. (2024). How to study democratic backsliding. *Political Psychology*, 45(S1), 3–42. <https://doi.org/10.1111/pops.12942>
- Espresso TV. (2023, February 2). Hungary's disinformation campaign plays into Kremlin's hands in its war on Ukraine. *Espresso TV*. <https://global.espresso.tv/hungarys-disinformation-campaign-plays-into-kremlins-hands-in-its-war-on-ukraine>
- European Parliament. (2022, September 15). *MEPs: Hungary can no longer be considered a full democracy*. European Parliament. <https://www.europarl.europa.eu/news/en/press-room/20220909IPR40137/meps-hungary-can-no-longer-be-considered-a-full-democracy>
- Fallis, D. (2015). What Is Disinformation? *Library Trends*, 63(3), 401–426. <https://doi.org/10.1353/lib.2015.0014>
- Fletcher, R., Cornia, A., & Nielsen, R. K. (2018). *Measuring the reach of “fake news” and online disinformation in Europe*. University of Oxford. https://ora.ox.ac.uk/objects/uuid:08627294-b4dc-4b69-b525-e6986b4887ec/download_file?safe_filename=Fletcher_et_al_factsheet_180201%2BFINAL.pdf&file_format=application%2Fpdf&type_of_work=Report
- Full Fact. (2017). *£350 million EU claim ‘a clear misuse of official statistics’*. Full Fact. <https://fullfact.org/europe/350-million-week-boris-johnson-statistics-authority-misuse/>
- Füssy, A. (2023, January 22). ‘Ha ez így megy tovább, tényleg nem marad magyar Kárpátalján’ – Füssy Angéla helyszíni riportja a brutális kényszerosorozásokról és elnyomásról [If this continues like this, Hungarians really won't stay in Subcarpathia"—Angéla Füssy's on-the-spot report on the brutal conscription and repression]. *Pesti Srácok*. <https://pestisracok.hu/ha-ez-egy-megy-tovabb-tenyleg-nem-marad-magyar-karpataljan-fussy-angela-helyszini-riportja-a-brutalis-kenyszerosorozasokrol-es-elnyomasrol/>
- Gallup Inc & Knight Foundation. (2023). *American Views 2022: Part 2—Trust, Media and Democracy*. Gallup. <https://knightfoundation.org/wp-content/uploads/2023/02/American-Views-2022-Pt-2-Trust-Media-and-Democracy.pdf>
- Gora, A., & de Wilde, P. (2022). The essence of democratic backsliding in the European Union: Deliberation and rule of law. *Journal of European Public Policy*, 29(3), 342–362. <https://doi.org/10.1080/13501763.2020.1855465>

- Griffen, S. (2020). Hungary: A lesson in media control. *British Journalism Review*, 31(1), 57–62. <https://doi.org/10.1177/0956474820910071>
- Haerpfer, C., Inglehart, R., Moreno, A., Welzel, C., Kizilova, K., Diez-Medrano, J., Lagos, M., Norris, P., Ponarin, E., & Puranen, B. (2022). *World Values Survey Time-Series (1981-2022) Cross-National Data-Set (4.0.0)* [dataset]. World Values Survey Association. <https://doi.org/10.14281/18241.22>
- Ipsos MORI. (2019). *Fake News: A Global Epidemic Vast Majority (86%) of Online Global Citizens Have Been Exposed to it, With Most (86%) Admitting to Having Fallen Victim to It*. Ipsos Public Affairs. <https://www.ipsos.com/sites/default/files/ct/publication/documents/2019-06/cigi-ipsos-2019-global-survey-on-internet-security-and-trust-pr.pdf>
- Jones, J. M. (2023, October 13). Americans Trust Local Government Most, Congress Least. *Gallup.Com*. <https://news.gallup.com/poll/512651/americans-trust-local-government-congress-least.aspx>
- Jones, L., & Whannel, K. (2024, June 7). PM defends £2,000 tax claim after widespread criticism. *BBC News*. <https://www.bbc.com/news/articles/cyrredd71z0o>
- Koh, E. (2023, December 28). The Ultimate Election Year: All the Elections Around the World in 2024. *Time*. <https://time.com/6550920/world-elections-2024/>
- Krekó, P., Molnár, A., Kucharczyk, J., & Pazderski, F. (2018). *Beyond Populism: Tribalism in Poland and Hungary*. Political Capital. https://politicalcapital.hu/pc-admin/source/documents/pc_beyond_populism_study_20180731.pdf
- Lanoszka, A. (2019). Disinformation in international politics. *European Journal of International Security*, 4(2), 227–248. Cambridge Core. <https://doi.org/10.1017/eis.2019.6>
- Levitsky, S., & Way, L. A. (2002). Elections Without Democracy: The Rise of Competitive Authoritarianism. *Journal of Democracy*, 13(2), 51–65. <https://doi.org/10.1353/jod.2002.0026>
- Little, A. T., & Meng, A. (2024). Measuring Democratic Backsliding. *PS: Political Science & Politics*, 57(2), 149–161. Cambridge Core. <https://doi.org/10.1017/S104909652300063X>
- McKay, S., & Tenove, C. (2021). Disinformation as a Threat to Deliberative Democracy. *Political Research Quarterly*, 74(3), 703–717. <https://doi.org/10.1177/1065912920938143>
- Online Safety Act, C.50 (2023). <https://www.legislation.gov.uk/ukpga/2023/50/part/3/chapter/6>
- Paul, C., & Matthews, M. (2016). *The Russian 'Firehose of Falsehood' Propaganda Model: Why It Might Work and Options to Counter It*. RAND Corporation. <https://doi.org/10.7249/PE198>

- Pew Research Center. (2023, November 15). Social Media and News Fact Sheet. *Pew Research Center*. <https://www.pewresearch.org/journalism/fact-sheet/social-media-and-news-fact-sheet/>
- Pirro, A. L. P., & Stanley, B. (2022). Forging, Bending, and Breaking: Enacting the “Illiberal Playbook” in Hungary and Poland. *Perspectives on Politics*, 20(1), 86–101. Cambridge Core. <https://doi.org/10.1017/S1537592721001924>
- The Policy Institute. (2018). *Brexit misperceptions*. The Policy Institute, King’s College London. <https://www.kcl.ac.uk/policy-institute/assets/brexit-misperceptions.pdf>
- Political Capital. (2022, May 10). *Disinformation in the election campaign – Hungary 2022*. https://politicalcapital.hu/news.php?article_read=1&article_id=3004
- Rid, T. (2020). *Active Measures: The Secret History of Disinformation and Political Warfare*. Picador.
- Russia Today. (2023, January 27). EU state slams Kiev over ‘brutal’ military draft from ethnic minority. *Russia Today*. <https://www.rt.com/news/570553-ukraine-mobilization-hungarian-minority/>
- Schedler, A., & Bor, A. (2024). *The End of Democratic Consolidation in the US*. Central European University, Democracy Institute. https://democracyinstitute.ceu.edu/sites/default/files/article/attachment/2024-02/Schedler%20and%20Bor%20The%20End%20of%20Democratic%20Consolidation%20in%20the%20US%20CEU%20DI%20WP%202024_22_final.pdf
- Shipman, T. (2024, June 8). *Infighting on the beaches: Behind the scenes of the D-Day debacle*. <https://www.thetimes.com/uk/politics/article/infighting-on-the-beaches-behind-the-scenes-of-the-d-day-debacle-6rlvt8nr6>
- Surridge, P. (2019). The left-right divide. In *The UK in a Changing Europe*. (Ed.), *Brexit and Public Opinion 2019* (p. pp.6-8). Blackwell Publishing. <https://ukandeu.ac.uk/wp-content/uploads/2019/01/Public-Opinion-2019-report.pdf>
- Szakács, J., & Bognar, E. (2023). *Hungary—Digital News Report 2023*. Reuters Institute for the Study of Journalism. <https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2023/hungary>
- Takacsy, D. (2023, May 3). Hungarian Disinformation in Russia. *Visegrad Insight*. <https://visegradinsight.eu/hungarian-disinformation-in-russia/>
- Tallies, B. (2022). *To Ukraine With Love: Essays on Russia’s War and Europe’s Future*. Self-published.
- Varieties of Democracy. (2023). *Liberal Democracy Index*. https://v-dem.net/data_analysis/VariableGraph/
- Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science*, 359(6380), 1146–1151. <https://doi.org/10.1126/science.aap9559>

- Waldner, D., & Lust, E. (2018). Unwelcome Change: Coming to Terms with Democratic Backsliding. In *Annual Review of Political Science* (Vol. 21, Issue Volume 21, 2018, pp. 93–113). Annual Reviews. <https://doi.org/10.1146/annurev-polisci-050517-114628>
- Washida, H. (2021). Seijiteki bunkyoku ha ikani minshushugi wo koutai saserunoka [How Does Political Polarization Erode Democracy?]. *The Annuals of Japanese Political Science Association*, 72(1), 81–104. https://doi.org/10.7218/nenpouseijigaku.72.1_81
- Web of Science. (2024, February 15). *Analyze Results*. <https://www.webofscience.com/wos/woscc/analyze-results/07cba0af-a7af-468e-a229-7e676ff9701b-cc44905d>
- Williams, J. (2018). *Stand out of our light: Freedom and resistance in the attentional economy*. Cambridge University Press.
- Wolkenstein, F. (2023). What is democratic backsliding? *Constellations (Oxford, England)*, 30(3), 261–275. <https://doi.org/10.1111/1467-8675.12627>
- Zilinsky, J., Theocharis, Y., Pradel, F., Tulin, M., de Vreese, C., Aalberg, T., Cardenal, A. S., Corbu, N., Esser, F., Gehle, L., Halagiera, D., Hameleers, M., Hopmann, D. N., Koc-Michalska, K., Matthes, J., Schemer, C., Štětka, V., Strömbäck, J., Terren, L., ... Zoizner, A. (2024). Justifying an Invasion: When Is Disinformation Successful? *Political Communication*, 1–22. <https://doi.org/10.1080/10584609.2024.2352483>

Reconstructing Adolescents' Depression: A Praxis-Oriented Approach

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Abstract

Adolescent suicide is a significant societal issue, with depression being a crucial indicator of suicide risk. Current research in Taiwan often perceives adolescent depression as a disease when discussing suicide prevention. However, there is limited exploration using a non-labeling and non-definitional approach to understand “depression” as a normal state (Newman, 1991). This study employs a practice-oriented research method, conducting image narrative for depressed adolescents. By having teenagers capture images depicting their depressive experiences in the realms of family, school, and community, a reconstruction of diverse depressive expressions takes place. Through curating new visual stories and engaging in dialogues with society, a new narrative experience is generated, aiming to eliminate internalized stigma and challenge dominant depression narratives. Findings reveal that teenagers, in reconstructing their stories of depression, undergo the following process: 1. Adolescent depression as an undifferentiated negative emotion, mixed with a chaotic state of unidentifiable life experiences and emotions. 2. Naming the experience allows adolescents to break free from the chaotic state. 3. Linking emotions and life experiences enables autonomy and liberation from a sense of helplessness. 4. Core life experiences often carry social stigma, hindering them in layers of vocabulary and peripheral events. 5. When teenagers collectively present their new depressive stories through curation, they are empowered with narrative energy. Surprisingly, the deepest impact on parents is not from their own kids but from other teenagers. This study affirms the effectiveness of a practice-oriented approach in adolescent depression research and its outcomes, suggesting the need for its wider promotion.

Keywords: Adolescent Depression, Image-Based Narrative, Praxis-Orientation Research

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Introduction

For adolescents, the primary developmental task at this stage is to establish self-identity (Erikson, 2000). As adolescents shift their focus from family to school and society, they may encounter more complex and multi-layered relationship issues. These issues, stemming from family, school, society, and culture, accumulate in the adolescents' future life imagery, often presenting as depression.

This study conducts an image-based narrative group for adolescents at high risk of suicide due to depression. By having the adolescents capture images of their depression in the contexts of family, school, and community, the study aims to reconstruct different aspects of their depression and form new understandings of their depressive experiences. We curated exhibitions to present these new image stories and facilitated dialogue with society (including parents, teachers, and friends). This generated new narrative experiences, thereby eliminating internalized self-stigma and the dominance of mainstream depression narratives.

Method

Fred Newman (1991) proposed a non-labeling approach and a non-definitional approach to discuss "depression," suggesting that being depressed is almost an essential part of being human. However, unlike general sadness or negative emotions such as frustration, depression is linked to a profound sense of loss. This loss generates a deep sense of emptiness (some of pointlessness) and a lack of meaning in social and cultural contexts. Seeking answers solely from the path of social adaptation, we will be overly determined by socially emotional cognitive self-understandings (p.101) to adapt to the present and will be unable to resist the next wave of social maladaptation.

To treat loss and depression with "history," from Fred Newman's perspective (Newman, 1991), personal experiences of depression have historical roots and are shaped through historical development, including ideas, practices, and values. Hsia (2010) believes that a practice-oriented social learning process involves action research that promotes social change within social relationships and phenomena. This process (by the actors) also creates a social learning space for communication and dialogue between individuals and groups. Restructuring social life is a prerequisite for transforming consciousness, and establishing a narrative field can be seen as a form of social practice that constructs social life.

This study views participants' "Image-based Narrative" as social exploration actions, negotiating the distinction between personal experiences of depression in the public and private domains. Discussing one's life and depression in the public domain challenges the social structure's individual experiences. Furthermore, if the depressive experience involves family privacy or social stigma, it becomes a taboo. Lai (2004) pointed out that under appropriately planned conditions, in the intentional probing of the narrator, distorted emotions under moral judgment or cultural oppression can be used as a trial balloon, aiming to find a path to a better society that can embrace oneself, giving society another chance to respond to those previously distorted emotions.

This study uses "images" as a "narrative" medium. Images are more intuitive than text and less subject to cognitive control. In exploring memory, visualization and metaphor (Kopp & Eckstein, 2004; Lingg & Kottman, 1991) are crucial techniques. They enable the

"experiencing self" (Lai, 2004) to gradually form in the transitional space and potential space between the internal and external, capturing the scene.

The Image-Based Narrative Group

The steps for conducting the image-based narrative group for depressed adolescents in this study are as follows:

- Recruitment of Members: Collaborate with counseling offices in local junior high and high schools to recruit depressed adolescents. The recruitment process ensures the physical and mental health and well-being of the adolescents and obtains consent from their parents or guardians. This study has passed the IRB review.
- Formation of the Group: Six members aged 16-18 (referred to as A, B, C, D, E, F) were recruited to form the group. The process of their activities is as follows:

Week	Theme	Summary of content
Preparation	Self-introduction and Icebreaker Activities	1. The facilitator introduces themselves through images to foster mutual understanding. 2. Members create a collage journal to document their narrative process.
Week 1	"The flavor of home" Image-based Narrative	Members using the theme " The flavor of home ", take photos within a family setting, including its members, that can convey the sense of "home atmosphere." Practice using photography to communicate feelings, depict experiences, and engage in dialogue.
Week 2	"Tree Hollow" Image-based Narrative	1. Check-in Collage Activity 2. Members capture scenes from their daily lives that represent the concept of "tree hollow/sanctuary/rest stop," which include their home, school, or community. Through dialogue, members explore the complex meanings of these scenes.
Week 3	"Depression" Image-based Narrative	1. Check-in Collage Activity 2. Members share their "depression" imagery (home, school, or community scenes) and engage in questions, feedback, and dialogue.
Week 4	"Four-Frame Photo Collage" and Hashtag Story	1. Check-in Collage Activity 2. Members create a four-photo sequence (two collages and two photos), using movie storyboard and timeline concepts. Through group discussion, members identify the main themes of their depressive or life experiences, naming them with hashtags. Subsequent group imagery is based on these discussions.

Week 5	"Four-Frame Photo Collage" and Hashtag Story	1. Check-in Collage Activity 2. Members create a four-photo sequence (two collages and two photos) by movie storyboard and timeline concepts. Through group discussion, members identify the main themes of their depressive or life experiences, naming them with hashtags. Subsequent group imagery is based on these discussions.
Week 6	Image Reconstruction (1)	Members add more meaningful images to their stories and share them for group discussion.
Week 7	Image Reconstruction (2)	Continuation of adding meaningful images to their stories and group discussion.
Week 8	Reconstructing Depression Stories	Members reinterpret and retell their stories.
Week 9	Reflection and Summary	A comprehensive review of group dynamics and mutual feedback.
Week 10	Artwork Preparation	Discussions and preparations for the exhibition.
Week 11	Artwork Preparation	Continued discussions and preparations for the exhibition.
Week 12	Exhibition of Image Stories	1. Attendees are those invited by the adolescents with no objections from the group. 2. Visitors must sign a confidentiality agreement.

Conclusion and Discussion

Findings reveal that teenagers, in reconstructing their stories of depression, undergo the following process:

1. Adolescent depression as an undifferentiated negative emotion, mixed with a chaotic state of unidentifiable life experiences and emotions. Example of member C:

Member C is a second-year high school student (repeating a year) and a teenage girl whose parents are divorced. Her mother suffers from bipolar disorder. During her ninth-grade year, she lived with her mother and her half-sister from the same mother but different father. At that time, her mother's mental state was extremely unstable, and she made a statement about "taking the whole family to die," which prompted a report to the social safety net by neighbors. As a result, Member C was forcibly placed in an institution for four months. Her sister also moved out and began living alone after this incident.

Despite facing such drastic changes in her life, member C prepared herself emotionally to focus on studying for the high school entrance exam, resisting the restlessness triggered by antidepressant medication. She managed to study hard and got into her ideal high school. However, her mother's emotional state did not stabilize due to member C's admission to high

school. With her sister's absence, member C had to bear her mother's emotional burden and clean up the furniture shattered by her mother's outbursts alone.

Member C's emotions and life were profoundly affected, and she didn't attend school for an entire year. During sleepless nights, she would gaze through the iron bars at the dawn sky around three or four in the morning, feeling like she was trapped at home behind iron bars (see Figure 1). When sharing this photo, she said:

“Now that I may finally calm down, I seem to realize... I was so, so, so sad. And then... I separated the sky and the building in the middle, as if torn in half, and I felt a bit like... I felt like the world outside was wonderful, but I couldn't get out. And then I felt like because I didn't know what was separating us, I knew it was sadness, but I still don't know what the most fundamental reason is, what is it for?”



Figure 1: The Dawn Sky Outside the Iron Bars

Behind the sadness lies a complex story of depression. She doesn't know how to express it, she doesn't understand it herself, so others couldn't possibly understand it either. As she described, she was very grateful that during the days when she couldn't go to school, she had a group of friends who cared for her and would actively buy some of her favorite foods to accompany her for dinner and chat overnight. Nevertheless, she still didn't know how to express the oppression she felt. When sharing that experience, she said:

“I don't even know the reason why I cannot go to school, and the people around me couldn't possibly know why I just want to stay at home all day... And when I'm with them, sometimes I act very normal, I don't express my negative emotions in front of them.”

2. Naming the experience allows adolescents to break free from the chaotic state. Example of member B:

Member B is a first-year high school girl. During group activities, she shows little interest in the stories shared by other members and remains very quiet. When it is her turn to share her photos, she speaks very little, and you can sense her strong self-defense mechanism within the group.

Her interactions with others at school are somewhat like her behavior in the group. She doesn't talk much to others and has no friends. Consequently, the high school counselor

suspects that Member B might have autism and believes her main issues are related to interpersonal relationships and communication. However, Member B feels she doesn't have any interpersonal issues, and the descriptions she shares in the group are all related to academic pressure.

During the week when the theme was Tree Hollow, she shared a picture she found very captivating while browsing a market before the high school entrance exam. The picture (like Figure 2) depicts a girl walking on a transparent staircase leading to an unknown planet. Every step seems cautious, lonely, and mysterious. She said this perfectly reflected her state of mind at that time. This image gave her strength and accompanied her as she faced the unknown "battle" ahead.

Even though she currently cannot analyze or even describe the oppressive feeling that envelops her, having this image as an anchor allows her to temporarily attribute her depressive emotions to academic pressure. This is why, on the group's achievement sharing day, she wants to display three heavily crumpled exam papers.



Figure 2: A girl walking on a transparent staircase leading to an unknown planet

3. Linking emotions and life experiences enables autonomy and liberation from a sense of helplessness. Example of member A:

Member A is a 17-year-old teenager, a second-year student at an experimental high school, living alone in a rented apartment. He rarely goes out and seldom attends school because he suffers from insomnia and has a reversed sleep schedule. When he couldn't sleep, he would stare at the ceiling (Figure 3), feeling an indescribable mix of emotions. He didn't know what was wrong with him.

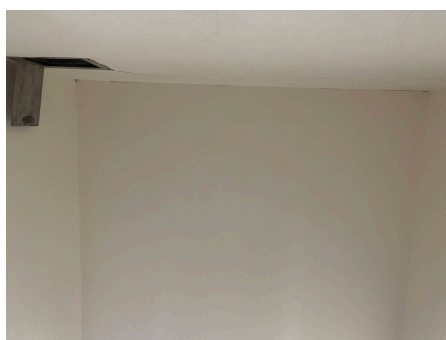


Figure 3: the ceiling when couldn't sleep

He is highly engaged in the group, eager to share, ask questions, and provide feedback. He is accustomed to thinking in a rational and abstract manner, using analytical language to link philosophical terms he has read when responding to or understanding life experiences. He described himself in the group as follows:

“My previous way of thinking was more rational. I would say this rationality is more structured, where things are clear, precise, and can be articulated. They have a more concrete object that can be grasped and expressed.”

At this stage, his emotional life does not seem to be immersed in a state of depression. He is very active when interacting with others, but living or interacting with this way of thinking makes him very distant from his own emotional experiences. In fact, there are moments in his life experience when he feels depressed, like the photo of the ceiling he took in the middle of the night. However, he doesn't know what it is and cannot describe it. During the third week of the Check-in Collage Activity, he created an image named “Incomprehensible” (Figure 4). While sharing, he said:

“I seem to have to accept some things that language cannot catch up with, or that my thoughts cannot, that my consciousness cannot clarify. What are those things? I would say, that is precisely its interesting state, that I can't express it, and then I can't analyze it well. What are the images of these two pictures or this kind of thinking in the real world? I can't think of it now. I would say that basically, it seems like my life didn't have too dramatic changes at that time, but mentally I suddenly fell into a state where I can't, some things I suddenly find that I can't explain clearly.”



Figure 4: Incomprehensible

This complex and indescribable feeling of depression slowly emerged in his consciousness in the form of images (pictures), allowing him to identify and articulate its existence. Even so, how should we continue to advance his life experience after this emotional imagery emerges? How is this feeling of depression related to his life experience?

The emotional connection of this image with his family experience was unexpectedly blurted out in the group, which he called a feeling of “disgust.” He said:

“The state between love and hate that I mentioned last time made me feel disgusted. I thought for a moment that this statement might be misleading. What I wanted to explain is that being in such a state is disgusting, not the existence of such emotions being disgusting. Maybe for me, hating someone is very simple, but being in this situation where love and hate coexist is unbearable and disgusting.”

This feeling of “disgust” refined through group interactions relates to a childhood scene at his old home in Hualien. This family scene, described by him as boring, portrays a child waiting for his mother to come home. This moment of “waiting” needs to be understood within the context of an actual mother-son relationship. In his real life, his depression and refusal to go to school were due to the conflicts and tensions between his mother and grandmother.

Throughout the entire group process, we collaboratively helped member A use language and words to transform his “incomprehensible” images into real-life scenes, then verbalize them, raising them to a conscious level, allowing him to escape from the indescribable depressive emotions and begin to understand them.

4. Core life experiences often carry social stigma, hindering them in layers of vocabulary and peripheral events. Example of member C:

In the photo which member C brought at the beginning of the group, filled with letters and sticky notes (as shown in Figure 5), she had already pointed to the core experience and key scene of her depressive emotions. However, she did not mention her mother’s bipolar disorder or the incident of forced placement. Instead, she talked about how she overcame difficulties and the story of having a group of friends who cared for and accompanied her. It is challenging for us to touch upon the nature of her depressive emotions and feel the weight of those emotions through such a narrative.



Figure 5: letters and sticky notes

Her mother’s bipolar disorder and the subsequent placement experience not only involve complex mother-daughter emotions but also carry a high level of social stigma. Even though such a mother made her wonder, “Why do these things happen to me? Why do I have to bear all this?” she also wants to protect her mother from societal judgment. This is evident in her response to her grandmother’s criticism of her mother:

“...I told her, ‘But she is still my mom.’ Although her emotional issues are indeed emotional issues, I always remember the normal side of her. If she didn’t have these problems, she would be a great mom because she really understands me and my sister. She knows what we like to eat and cooks especially for us ...”

Throughout the process of the imagery storytelling group, all participants moved through the scenes together, responding to and interacting with each other's life stories, akin to walking down a spiral staircase leading deeper into core emotions. Through tentative questions and

responses, they slowly peeled away the linguistic barriers surrounded by social stigma. In a social context of compassionate life storytelling, they encountered their core emotions in front of others and themselves (Cheng-Pin. L, 2004).

5. When teenagers collectively present their new depressive stories through curation, they are empowered with narrative energy. Surprisingly, the deepest impact on parents is not from their own kids but from other teenagers.

At the exhibit, member D placed a stack of prescription bags on the table, using a tangible method to present the temporal depth of her battle with depression since elementary school, and named it "Life with Reduced Medication."

Member E displayed a variety of different cosmetics on her table to show how she used to rely on makeup and external packaging to protect herself. She repeatedly shared her story with the visitors, reflecting on her emotional experience of being overly concerned with others' opinions of her.

Member F even engaged the audience by having them write responses on sticky notes. Her father left a message saying, "Your text file is too hard to understand. Others use images. I wanted to understand what you do here. It seems you've become happier and more expressive. Unfortunately, I can't understand your story. Can anyone understand it?" This message sparked a series of interactive responses.

On the day of the exhibition, member C's work drew the most attention and discussion. One visitor, after seeing member C's work and hearing her introduction, said:

"Listening to her story reminded me of my own. It made me think about my journey from being able to attend university to not being able to, then working at home, then leaving home to work on my own, and now being alone in Taiwan. Honestly, I feel I'm not as good as she is. Really, hearing her talk made me reflect on my own journey, but I still think she's amazing."

Another visitor commented: "It reminded me of my own time studying away from home. My family wasn't well-off, so I had to save money, which meant eating frugally during my studies. I would hesitate to go out with friends because it would add to my family's financial burden."

After participating in the imagery storytelling group, the participants showed significant changes in their real lives.

Member A, following the discussion of the "unanalyzable" image connected to childhood scenes in his hometown, began to interact more with classmates. He started going out for fun, staying overnight at friends' houses, and actively participating in classroom activities.

Member B, after discussing with her parents, successfully applied for independent study. She now has a clear goal for her future: she wants to explore herself and study psychology in university.

Member C had deeper life conversations with her high school counselor.

Member D faced a recurrence of emotional difficulties when pressured by university entrance exams, but this time she actively faced the challenges and began learning self-help techniques.

Member E wanted to invite her middle school teacher to view her imagery storytelling project, hoping to show how much she has changed.

Member F, identified as having special needs, used to rely heavily on her parents for daily tasks. The storytelling group helped her develop the ability to participate independently. Listening and speaking in the group sparked her desire for self-expression, and she started to articulate her emotional states.

This study affirms the positive impact of a practice-oriented approach in researching adolescent depression and suggests its promotion.

References

- Erikson, E. H. (1984). *The life cycle completed: A review*. Norton.
- Hsia, L.-C. (2010). Walking together through the path of de-colonization: The social learning of a resistance fellowship. *Research in Applied Psychology, 45*, 45-72. <https://www.airitilibrary.com/Article/Detail?DocID=15609251-201003-201102170031-201102170031-45-72>
- Kopp, R. & Eckstein, D. (2004). Using Early Memory Metaphors Client-Generated Metaphors in Adlerian Therapy. *Journal of Individual Psychology, 60*(2), 163-171.
- Lai, C.-P. (2004). *Zi wo xu shuo tan jiu yu sheng ming zhuan hua—Fa sheng zai Lu Di she da de xue xi gu shi* [Self-narrative inquiry and life transformation—Learning stories from Lu Di Community University] (Doctoral dissertation, Fu Jen Catholic University). Taiwan Thesis and Dissertation Knowledge Value-Added System. <https://hdl.handle.net/11296/9sgzp9>
- Lingg, M. A., & Kottman, T. (1991). Changing Mistaken Belief Through Visualization of Early Recollection. *Individual Psychology, 47*(2), 255-261.
- Newman, F. (1991). *The myth of psychology*. New York: Castillo International.

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*Nurturing Contemporary Enterprise Vitality and Sustainable Development From
Humanistic Classics*

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Abstract

Modern business operations face not only traditional management issues but also new and unknown challenges such as establishing culture, cultivating agile and adaptable leadership styles, adapting to technology and data driven environments, effectively addressing global competition, managing diverse teams, and enhancing employee engagement. This article categorizes contemporary business management key issues into five main areas: Technology and Management, Environmental Concerns, Human Nature and Leadership, Socio cultural Factors, and Macro Environment, and tries to explore their management implications. This research also summarizes contemporary business management into five approaches of utilizing technology responsibly, respecting natural laws, understanding and respecting human nature, understanding and adapting to societal and cultural factors, and fundamentally embracing change. In addition to conventional management approaches, this research aims at drawing insights from Chinese ancient texts such as "The Book of Rites," Zhuangzi, I Ching, and Feng Shui theory to uncover core values and principles for contemporary business management from humanistic classics. By exploring the ancient wisdom of observing the laws governing the universe and interpersonal dynamics, this article intends to find insights from humanistic classics, and tries to suggest the five core values and principles for contemporary business management: practice rational introspection, seek beyond self-interest, harmonize with nature, balance self-interest with altruism in distribution, use humanistic principles and norms to achieve for others, recognize all living things are in the process of changes between yang (positive side) and yin (negative side). This research attempts to embody the essence of contemporary business management for enduring success.

Keywords: Contemporary Business Management, Humanistic Classics, Sustainable Development, Global Competition

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Introduction

Modern businesses face a myriad of challenges that extend beyond traditional domains, necessitating innovative and dynamic approaches to management. This research addresses several critical areas essential for contemporary business success: identifying and categorizing current business issues, exploring contemporary management approaches, elucidating core values and principles, and emphasizing the essence of contemporary business management for enduring success.

Modern businesses also must navigate a complex array of challenges beyond traditional domains. One key challenge is enhancing cross-cultural communication abilities, essential for effective collaboration in an increasingly globalized workforce. Additionally, cultivating agile and adaptable leadership styles is crucial to respond swiftly to changing market conditions and unforeseen disruptions. Adapting to a technology and data-driven environment demands continuous learning and integration of advanced digital tools and analytics for informed decision-making.

Furthermore, global competition requires businesses to innovate and maintain a competitive edge by understanding diverse market dynamics and consumer preferences. Managing diverse teams presents its own set of challenges, necessitating strategies for inclusivity and harnessing varied perspectives for better problem-solving. Enhancing employee engagement is also vital, as a motivated workforce drives productivity and long-term organizational success. Addressing these multifaceted challenges is critical for modern businesses to thrive in a dynamic and interconnected world.

From an article in Harvard Business Publishing in 2023, it listed 4 Key Challenges for Leadership Development Today: Contending with Continuous Disruption Beyond the C-Suite, Building the Tech-Savviness of All Leaders, Humanizing Leadership in the Digital Age, and Leading the Hybrid Work Strategy. Also, from a McKinsey report in 2021, there are Four Interrelated Trends are Poised to Unwind the Old Rules of Management: More Connectivity, Lower Transaction Costs, Unprecedented Automation, and Fundamental Societal Shifts. Further, World Economic Forum, published in January 2024 raised the Global Risks over the Short and Long Term: Misinformation and Disinformation, Extreme Weather Events, Societal Polarization, Cyber Insecurity, Interstate Armed Conflict, Lack of Economic opportunity, Inflation, Involuntary Migration, Economic Downturn, and Pollution.

The author of this research summarizes these viewpoints and proposes Five Categories of Contemporary Business Issues (Table 1). The author will discuss these issues and suggest how contemporary businesses could cope with these issues in this research.

Table 1: Five Categories of Contemporary Business Issues

Key Challenges for Leadership Development Today	Four Interrelated Trends Unwind the Old Rules of Management	Global Risks Over the Short and Long Term	Contemporary Business Issues
Building the Tech-Savviness of All Leaders	More connectivity	Misinformation and disinformation	Technology and Management
	Unprecedented automation	Cyber insecurity	
		Extreme weather events	Environmental Concerns
		Pollution	
Humanizing Leadership in the Digital Age			Human Nature and Leadership
Leading the Hybrid Work Strategy			
	Fundamental societal shifts	Societal polarization	Socio-cultural Factors
Contending with Continuous Disruption Beyond the C-Suite	Lower transaction costs	Interstate armed conflict	Macro Environment
		Lack of economic opportunity	
		Inflation	
		Involuntary migration	
		Economic downturn	

Beyond conventional business management strategies and operational details, adopting alternative approaches and core values can significantly aid businesses in thriving and sustaining growth. Principles from Oriental classic thinking in Confucianism, Taoism, I Ching, and Feng Shui theory offer valuable insights.

Incorporating trajectories from the natural order into human thought and behavior can also be beneficial. Observing how ecosystems maintain balance and sustainability can inspire business practices that prioritize long-term viability over short-term gains. This perspective encourages a holistic approach, integrating environmental stewardship and social responsibility into core business strategies. Embracing values such as mindfulness, interconnectedness, and balance can lead to more sustainable and ethically sound business practices, ultimately fostering a thriving organizational environment that aligns with broader societal and environmental goals.

Contemporary Business Issues: Technology and Management

In the contemporary business environments, the advent of Industry 4.0 and Artificial Intelligence (AI) offers businesses transformative opportunities but also presents significant challenges. One critical concern is the identification of errors and misinformation, which can proliferate rapidly in the digital age. Ensuring that a wider audience has access to accurate information is paramount, as is the need for individuals to acquire new skills to adapt to technological advancements. Moreover, businesses must be cautious of overreliance on technologies, as it can lead to complacency and a neglect of human oversight, ultimately undermining the benefits these technologies can provide.

The Great Learning from The Book of Rites and the Inner Chapters of The Writings of Zhuangzi offer timeless wisdom on the use of technology. From The Great Learning section of The Book of Rites 《禮記·大學》：

“Their knowledge being complete...Their thoughts being sincere, their hearts were then rectified ...Their states being rightly governed, the whole kingdom was made tranquil and happy.” (Legge. J. Trans.,n.d.)

In The Writings of Zhuangzi, Inner Chapters Nourishing the Lord of Life 《莊子·內篇·養生主·二》：

“His cook was cutting up an ox for the ruler Wen Hui. ...The ruler said, 'Ah! Admirable! That your art should have become so perfect!' the cook laid down his knife, and replied to the remark, 'What your servant loves is the method of the Dao, something in advance of any art.’ (Legge. J. Trans.,n.d.)

These ancient texts advocate for the pursuit of technological advancement while emphasizing the importance of a comprehensive understanding and mastery of both people and the broader context. Central to their teachings is the necessity of sincere and earnest intentions for the effective governance of knowledge and methods. They underscore the essence of scientific inquiry through the pursuit of understanding phenomena, highlighting the integral role of ethical considerations and holistic comprehension in technological progress.

Contemporary Business Management Approaches: Utilizing Technology Responsibly

As represented in The Great Learning section of The Book of Rites, Confucian thought emphasizes rational self-reflection, the pursuit of ethical conduct beyond self-interest, and adherence to moral principles. By embodying these values, we can utilize technology responsibly and mitigate the negative consequences of unchecked technological development. Ethical conduct and moral adherence guide us in leveraging technology for the greater good, ensuring that advancements serve humanity rather than harm it. This approach fosters a balanced and conscientious integration of technology into society, aligning innovation with ethical imperatives.

Core Values and Principles for Contemporary Business Management: Practice Rational Introspection, Seek Beyond Self-Interest

The management of businesses should balance the benefits of technologies with introspection, applying technology judiciously and ethically. By practicing rational introspection and seeking beyond self-interest, leaders can ensure that technological advancements align with ethical standards and broader societal goals. This approach fosters responsible innovation, integrating technological progress with a commitment to moral principles and the well-being of the community.

Contemporary Business Issues: Environmental Concerns

Contemporary businesses are increasingly challenged by extreme weather patterns and various forms of pollution, which test their risk management capabilities. Addressing these issues effectively reflects a company's resilience and adaptability. With the integration of ESG (Environmental, Social, and Governance) principles into management priorities,

companies are recognizing the importance of intangible assets such as goodwill. This shift underscores the need for sustainable practices and ethical governance, which enhance a company's reputation and long-term viability while contributing positively to the environment and society.

From the Yellow Emperor Classics about Fengshui 《黃帝宅經卷上》：

“The home is the foundation of human life. When one's dwelling is peaceful and secure, prosperity and good fortune flourish within the family.”

The Yellow Emperor Classics on Fengshui emphasizes the profound influence of one's dwelling on human life. According to this ancient text, a peaceful and secure home forms the cornerstone for prosperity and good fortune within a family. This belief has transcended generations, highlighting the enduring desire for favorable external environments that foster positive growth and development.

Grand Master Hunyuan Chanshin of Taiwan elucidated that the I Ching symbolizes cosmology, and Feng Shui represents environmental studies. Viewing these disciplines through the lens of Chinese synthesis and documentation of natural phenomena underscores the imperative of harmonious coexistence with nature. This perspective highlights the profound insight ancient Chinese wisdom offers into understanding and harmonizing with the natural world, emphasizing a holistic approach to environmental stewardship and sustainable living.

Contemporary Business Management Approaches: Respecting Natural Laws

Resonating with the values of Eastern culture, respecting natural laws and maintaining harmony with the environment can significantly enhance business competitiveness and differentiation in the face of environmental challenges. By aligning operations and strategies with ecological principles, businesses not only mitigate environmental impact but also foster sustainable practices that appeal to conscientious consumers and regulatory bodies. This approach not only reduces operational risks associated with environmental degradation but also cultivates a positive brand image and strengthens market position through innovation in eco-friendly products and services. Ultimately, businesses that prioritize respect for natural laws can achieve long-term viability and enhance their competitive edge in a rapidly evolving global marketplace.

Core Values and Principles for Contemporary Business Management: Harmonize With Nature

When businesses integrate the concept of harmonization with nature into the establishment and development of their factories, logistics centers, or office spaces, they increase the likelihood of operating in more suitable and advantageous environments. This approach entails conscientiously selecting locations and designing facilities that minimize ecological footprint, optimize resource efficiency, and respect natural habitats. By prioritizing harmonization with nature, businesses not only enhance operational efficiencies and reduce costs associated with environmental impact but also position themselves favorably in terms of regulatory compliance and community relations. This enduring commitment to creating environmentally sound workplaces underscores a strategic advantage, fostering resilience and long-term sustainability in competitive markets.

Contemporary Business Issues: Human Nature and Leadership

In management science, effective leaders play a pivotal role in guiding their teams towards consensus, leveraging strengths, and achieving organizational objectives. They do this by fostering effective interactions among team members, nurturing mutual trust, understanding individual needs, and cultivating a sense of well-being within the team. By facilitating open communication and collaboration, leaders create an environment where diverse strengths are utilized optimally, consensus is reached efficiently, and organizational goals are met effectively. Thus, their leadership is characterized by a blend of strategic direction and interpersonal skills aimed at maximizing team performance and cohesion.

Contemporary Business Management Approaches: Understanding and Respecting Human Nature

Confucian economic thought emphasizes the importance of understanding and respecting human nature in addressing business issues. Contrary to merely advocating frugality and benefiting others, Confucianism highlights the significance of equitable distribution and ensuring the well-being of others within the framework of self-interest. The core lies in distribution and benefiting others within self-interest, rather than frugality and benefiting others (Tseng, 2017).

This perspective underscores the belief that fostering a harmonious society and sustainable economic relationships hinges on recognizing and respecting the inherent needs and aspirations of individuals. By aligning economic activities with the principles of empathy and fairness, Confucian thought seeks to cultivate a business environment where mutual benefit and ethical considerations prevail, ultimately contributing to societal prosperity and stability.

Core Values and Principles for Contemporary Business Management: Balance Self-Interest With Altruism in Distribution

In modern enterprises, the integration of personal values with organizational goals is facilitated primarily through interactions with colleagues and stakeholders. By fostering meaningful relationships and understanding shared objectives, individuals can align their personal values with the mission and vision of the organization. This alignment is crucial for cultivating a sense of purpose and fulfillment in one's work, as emphasized by Kuo and Wong (2017). Moreover, achieving this integration requires balancing self-interest with altruism in distribution practices.

This approach ensures that organizational objectives are met while also considering the ethical distribution of benefits to stakeholders, thereby promoting a harmonious and sustainable corporate culture. Ultimately, by harmonizing personal values with organizational goals through balanced practices, enterprises can enhance employee engagement, organizational effectiveness, and societal impact.

Contemporary Business Issues: Socio-Cultural Factors

Culture is fundamentally integral to human society, shaping its values, behaviors, and social structures. In the realm of business, operations are deeply intertwined with societal development, as a flourishing civilization forms the bedrock for economic activities. Businesses leverage cultural insights to discern and meet the diverse needs of society,

determining what goods and services to offer. Successful business management hinges significantly on understanding and adapting to social cultures, recognizing their nuances and implications for operational strategies. Thus, culture not only defines societal frameworks but also guides strategic decisions essential for sustainable business growth.

Contemporary Business Management Approaches: Understanding and Adapting to Societal and Cultural Factors

Understanding and adapting to societal and cultural factors are pivotal in contemporary business management approaches. Confucian belief emphasizes that civilization's progress hinges on the centrality of people and the alignment of human conduct with natural order principles. In organizational management, culture is defined as a dynamic system encompassing shared values, beliefs, experiences, and behavioral norms, shaping a distinct organizational identity (Zhang et al., 2022). Acknowledging and integrating societal and cultural dynamics into business strategies foster organizational resilience, effectiveness, and sustainability. Thus, businesses that embrace cultural insights can navigate complexities, enhance employee engagement, and forge meaningful connections with diverse stakeholders in an evolving global landscape.

Core Values and Principles for Contemporary Business Management: Use Humanistic Principles and Norms to Achieve for Others

Using humanistic principles and norms to encourage employees to achieve for others can significantly align their beliefs with organizational culture, fostering a strong sense of identification and belonging. This alignment enhances operational efficiency by promoting collaboration, mutual support, and a shared commitment to common goals. When employees are motivated by humanistic values such as empathy, fairness, and respect for others, they are more likely to work cohesively and proactively, thereby reducing the likelihood of errors. By nurturing a culture rooted in humanistic principles, businesses not only cultivate a positive work environment but also strengthen their capacity to achieve sustainable success through engaged and motivated teams.

Contemporary Business Issues: Macro Environment

Today's business operations are confronted with macro factors such as resource competition and conflicts in cultural ideologies. To ensure continuous survival and operation, businesses prioritize continuous improvement initiatives aimed at enhancing efficiency, innovation, and adaptability. Additionally, respecting employee diversity fosters inclusivity and unlocks varied perspectives crucial for navigating complex challenges. Adherence to ethical standards maintains trust with stakeholders and sustains long-term viability. Furthermore, learning to effectively address globalization challenges equips businesses with the resilience needed to thrive in diverse and interconnected markets. By proactively addressing these macro factors and integrating strategic responses, businesses can fortify their foundations and achieve sustainable growth in dynamic global landscapes.

From the Tao Te Ching by Laozi, specifically in Chapter 64 《道德經·六十四》, the advice to anticipate and mitigate risks before they manifest underscores a proactive approach to risk management:

“before a thing has given indications of its presence, it is easy to take measures against it; ...Action should be taken before a thing has made its appearance; order should be secured before disorder has begun.”

This ancient wisdom emphasizes the importance of foresight and preparedness in preventing disruptions and chaos. In contemporary business contexts, this philosophy resonates deeply with management practices that prioritize early identification and mitigation of risks. Utilizing management indicators and assessments such as Environmental, Social, and Governance (ESG) criteria enables organizations to anticipate potential challenges related to sustainability, regulatory compliance, and stakeholder relations. By integrating these principles into strategic planning and operational frameworks, businesses can enhance resilience, foster sustainable practices, and preemptively address issues before they escalate, thereby promoting long-term success and stability.

Contemporary Business Management Approaches: Fundamentally Embracing Change

Almost two thousand years ago, in Zheng Xuan's interpretation of the I Ching, phenomena are delineated by "simplicity", "change", and "unchanging" in Understanding of Yi 《易論》. Nowadays, entrepreneurs are compelled to continuously assess and decide, ensuring their actions harmonize with the evolving dynamics of people, events, and circumstances. Consequently, businesses must adopt a fundamental orientation towards embracing change. This approach not only acknowledges the impermanent nature of conditions but also underscores the strategic imperative of adaptability in navigating complexities and achieving sustained growth.

Core Values and Principles for Contemporary Business Management: Recognize all Things Are in the Process of Changes Between Yang (Positive Side) and Yin (Negative Side)

Grand Master Hunyuan Chanshin of Taiwan posits in Weixin Shengjiao website, that I Ching encapsulates the cyclical nature of natural transformations, urging individuals to integrate its principles into daily life, particularly in business strategy and operations. By understanding that everything undergoes a continuous flux between Yang (positive) and Yin (negative), managers can adeptly navigate the dynamic business environment. This recognition fosters resilience and strategic agility, enabling them to respond effectively to evolving circumstances and cultivate sustainable success.

Way for Sustainable Development and Enduring Prosperity for Enterprises

A sustainable path to development and enduring prosperity for enterprises involves steadfast adherence to core principles and values, coupled with a commitment to peaceful coexistence with all entities. By engaging in regular self-reflection and maintaining resilience amidst external fluctuations, businesses can cultivate mutually beneficial relationships with stakeholders including suppliers, customers, and employees. This holistic approach not only enhances operational stability but also fosters a harmonious environment conducive to sustainable growth and ethical business practices.

Humanistic Classics to Suggest Five Core Values and Principles for Contemporary Business Management

This research advocates for integrating principles from Humanistic Classics to guide contemporary business management towards revitalization and sustainable development. By drawing from these foundational texts, businesses can adopt Five Core Values and Principles (Table 2) such as:

- Practice Rational Introspection, Seek Beyond Self-Interest
- Harmonize with Nature
- Balance Self-Interest with Altruism in Distribution
- Use Humanistic Principles and Norms to Achieve for Others
- All in the Process of Changes Between Yang (positive side) and Yin (negative side)

These values not only enrich organizational culture but also foster innovation, resilience, and ethical decision-making. Embracing these principles enables enterprises to enhance their operational vitality and achieve enduring success in a dynamic and interconnected global landscape.

Table 2: Humanistic Classics to Suggest Five Core Values and Principles for Contemporary Business Management

Contemporary Business Issues	Five Approaches of Contemporary Business Management	Core Values and Principles for Contemporary Business Management
Technology and Management	Utilizing Technology Responsibly	Practice Rational Introspection, Seek Beyond Self-Interest
Environmental Concerns	Respecting Natural Laws	Harmonize with Nature
Human Nature and Leadership	Understanding and Respecting Human Nature	Balance Self-Interest with Altruism in Distribution
Socio-cultural Factors	Understanding and Adapting to Societal and Cultural Factors	Use Humanistic Principles and Norms to Achieve for Others
Macro Environment	Fundamentally Embracing Change	All in the Process of Changes Between Yang (positive side) and Yin (negative side)

Conclusions

The five core values and principles proposed by this research epitomize contemporary business management essential for enduring success (Figure 1). Rooted in humanistic ideals, these values of: Practice Rational Introspection, Seek Beyond Self-Interest, Harmonize with Nature, Balance Self-Interest with Altruism in Distribution, Use Humanistic Principles and

Norms to Achieve for Others, and All in the Process of Changes Between Yang (positive side) and Yin (negative side), form the bedrock of ethical leadership and sustainable organizational growth. By embracing these principles, businesses cultivate a culture of trust, innovation, and resilience. This holistic approach not only enhances stakeholder relationships but also equips enterprises to navigate complexities and achieve long-term prosperity in today's competitive landscape.

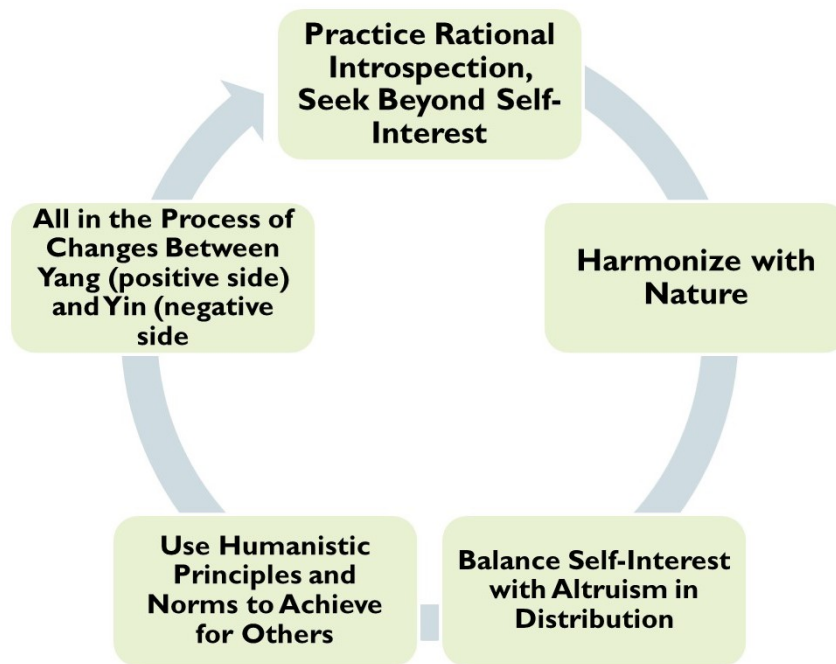


Figure 1: The Five Core Values and Principles suggested by this presentation demonstrate the Essence of Contemporary Business Management for Enduring Success

References

Journals

- Harvard Business Publishing Corporate Learning. (2023). *Report: Ready for Anything*.
https://www.harvardbusiness.org/wp-content/uploads/2023/06/Report_Ready-for-Anything_Jun2023.pdf
- Kuo, C.C. & Wong, H.R. (2017). The influences of faith-based organizations' spiritual management on human resource development: In the case of Christian FBO. *Fu Jen Management Review*, 24(3), 57-78.
- Smet, A.D., Gagnon, C., & Mygatt, E. (2021). Organizing for the future: Nine keys to becoming a future-ready company. McKinsey & Company. Retrieved from <https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/organizing-for-the-future-nine-keys-to-becoming-a-future-ready-company>
- Tseng, W.C. (2017). The meaning, idea, and practice in economics of Confucian. *Journal of Religion and Culture of National Cheng Kung University*, 24, 1-16.

Books

- Plunkett, W., & Allen, G. (2022). *Management* (W. H. Chang, I. J. Wang, S. Y. Ho, & T. L. Chou, Trans.; 11th ed.). Taipei City: Tung Hua Book Co. (Original work published 2012).

Electronic Sources

- Chinese Text Project. (n.d.). *Tao Te Ching (Laozi) 64* 《道德經·六十四》. <https://ctext.org/dao-de-jing/zh>
- Legge, J. Trans. (n.d.). *The Great Learning section of The Book of Rites* 《禮記·大學》 <https://ctext.org/liji/da-xue/zh?en=on>
- Legge, J. Trans. (n.d.). The Writings of Zhuangzi, Inner Chapters Nourishing the Lord of Life 《莊子·內篇·養生主·二》. <https://ctext.org/zhuangzi/nourishing-the-lord-of-life/zh?en=on>
- Legge, J. Trans. (n.d.). Chinese Text Project. Yellow Emperor Classics about Fengshui 《黃帝宅經卷上》. <https://ctext.org/wiki.pl?if=gb&chapter=182804>
- Weixin Shengjiao. (n.d.). *Weixin Shengjiao*. <https://www.cjs.org.tw/main/Weishin02.aspx>
- World Economic Forum (2024, 10 January). *The Global Risks Reports 2024 19th Edition Insight Report*. Retrieved from https://www.weforum.org/publications/global-risks-report-2024/in-full/?utm_source=google&utm_medium=ppc&utm_campaign=globalrisks&gad_source=1&gclid=EAIaIQobChMIp-KruGIhAMVDMJMAh319A0TEAAYASAAEgI2IvD_BwE

Zheng, X. (n.d.). *Zheng Xuan's understanding of Yi* 《鄭玄易論》.

<https://pedia.cloud.edu.tw/Entry/WikiContent?title=%E6%98%93%E7%B6%93&search=%E6%98%93%E7%B6%93>

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Human Resource Management As It Relates to Teachers' Global Competitiveness

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Abstract

This study examines the impact of human resource management on teachers' global competitiveness. The research conducted is descriptive-correlational. It focuses on respondents' demographic profiles, the principals' HRM practices in terms of recruitment and selection, performance appraisal, remuneration, training and development, and employee safety and health; the teachers' global competitiveness in terms of 21st century learning skills, 21st century innovation skills, 21st century life and career skills, and 21st century information, media, and technology skills; the problems faced in human resource management in pursuing teachers' global competitiveness in terms of socio-cultural factors, technology factors, economic factors, and political factors; the relationship between the principals' human resource management practices and teachers' global competitiveness; and the significant difference between the principals and teachers perceptions on human resource management. The study reveals that both teachers and school principals possess the necessary qualities for their current positions. Principals are found to be practicing human resource management practices while teachers are perceived as enthusiastic in implementing 21st century skills for global competitiveness. However, there are some problems related to socio-economic, technological, economic, and political factors. The study also found a significant relationship between the human resource management practices of school principals and the 21st-century global competitiveness of teachers.

Keywords: Global Competitiveness, 21st Century Skills, Human Resource Management

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Introduction

Human resources are both an asset and deterrent in the success of any organization. It plays a crucial role in the success of any organization, particularly in the education sector. Their competence, efficiency, and commitment are essential for the overall effectiveness of the organization. Human Resource Management (HRM) is essential in organizations, focusing on hiring, recruitment, job assignment, evaluation, and development. The importance of human capital is even more pronounced in educational institutions, as it plays a vital role in helping people become literate, numerate, problem solvers, and achieve self-actualization, economic efficiency, and civic responsibility. However, public education in the Philippines has faced criticism for its deterioration over the past three decades. The Autonomous Region in Muslim Mindanao (ARMM) has been criticized for corruption, miseducation, and poor performance in national tests. Human resource management in education should be recognized as a crucial concern, as it is the key to rapid socio-economic development and efficient service delivery. Preparing the millennial for life and work in the 21st century requires a shift in assessment strategies to measure students' ability to think critically, examine problems, gather information, and make informed decisions using technology.

In this study, it aimed to determine the human resource management as it relates to teachers' global competitiveness in Marawi City and Lanao Del Sur 1 Divisions. Specifically, 1) What is the demographic profile of the principals and teachers in terms of age, civil status, eligibility, ethnicity, educational attainment, field of specialization, length of service, salary, and seminars and training attended; 2) What is the extent of the human resource management practices of the principals as perceived by the principals and teachers in terms of recruitment and selection, performance appraisal, remuneration, training and development, and employee safety and health; 3) What is the extent of the teachers' global competitiveness in terms of learning skills, innovation, life and career skills, and information, media, and technology skills; 4) What is the problems faced in human resource management in pursuing teachers' global competitiveness in terms of socio-cultural factors, technology factors, economic factors, and political factors; 5) Is there the relationship between the principals' human resource management practices and teachers' global competitiveness; and, 6) Is there significant difference between the principals and teachers perceptions on human resource management. Furthermore, this study utilized the descriptive-correlational research design and mixed research method; qualitative and quantitative methods and data were used in tandem. In order to tabulate and analyze the quantitative type of data, frequency and percentage, weighted mean, the Pearson Product Moments Coefficient Correlation and t-test were used to determine the nature and extent or magnitude of relationship between the sets of variables: the principals' human resource management practices and teachers' global competitiveness, and the principals' and teachers' perceptions on human resource management practices. One thousand and sixteen (1016) teachers representing the population of teachers in Marawi City and Lanao del Sur I Divisions drawn by multi-stage sampling using Sloven formula and stratified sampling made up the first group of respondents. The second group of respondents consisted of seventy-nine principals; for the latter, full enumeration was used. The primary instrument used in the data collection was a researcher-constructed questionnaire.

Theoretical Framework

This study is founded on three theories, namely, the Organizational Change theory of Gareth (2009) as cited by Itika (2011), the Systems theory by Robbin et al. Laszio (1972), Hakin (1980) and Robbins (1990), and the theory postulated by Hawley (1985).

The first theory on organizational change by Gareth (2009), as cited by Itika (2011) contended that Gareth's organizational change theory suggests that organizations transition from current to desired future states, influenced by technology, policies, and customer tests. Effective change requires adaptations in structure, job design, recruitment, and retention, with poor learning leading to collapse.

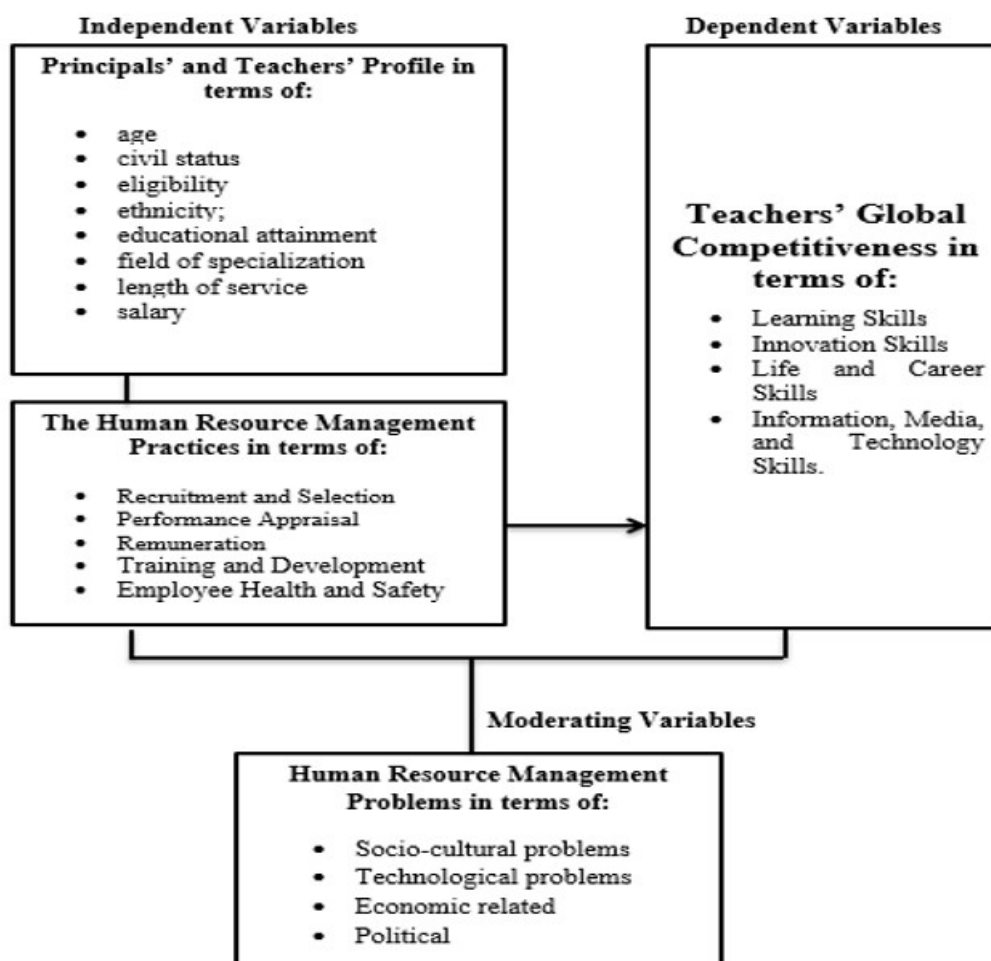
The second theory on which the present study is anchored is the general system theory by Lasio (1972), Haken (1980) and Robbins (1990). General System Theory views organizations as interconnected systems with interrelated components, emphasizing total organizational learning and communication. It provides a framework for planning actions and balancing needs and goals, recognizing the dynamic nature of organizations. This is relevant to human resource management, particularly in the context of globalization and competitiveness in the educational system.

The third theory that underpins the present study is the Personal Competence Theory. Gregorio's theory emphasizes personal competence, encompassing knowledge, performance, and consequence competencies. It suggests that achieving one form of competency may not be possible due to interconnectedness.

Taken as an integrated whole, the theories outlined above guided the researcher in conceptualizing her research problem, identifying the parameters of her study and developing ideas and information in pursuing the study. Said theories also provide knowledge of the new trends and issues regarding the effectiveness of human resource management in producing competitive teachers in the 21st century society. Thus, the present researcher postulates a theory emphasizing that the principals' human resource management practices, such as recruitment and selection, performance appraisal, remuneration, training and development, and employee safety and health, have great impacts on the development and improvement of teachers' skills to the end of achieving global competitiveness. These human resource management practices are unified and interconnected in producing teachers' global competitiveness.

Analytical Paradigm

Figure 1: Schematic Diagram Showing the Variables of the Study



Null Hypotheses of the Study

The following null hypotheses were tested at 0.05 level of significance.

H_{01} : There is no significant relationship between the principals' human resource management practices and teachers' global competitiveness.

H_{02} : There is no significant difference between the principals' and teachers' perception on human resource management practice of the principals.

Findings, Conclusion and Recommendations

Findings

I. Demographic Profile of the Respondents

The gleanings from the analyzed data include the following findings: for the teacher respondents' demographic profile, many (28.3 percent) were between 20-30 years old, majority (72 percent) were married, majority (67.5 percent) were LET passers, and all (100%) were Meranaw. Majority (50.4 percent) were BS graduates with MA units, majority (54.4 percent) specialized in general education, many (25.5 percent) have behind them 0-4

years of service, and majority (53.9 percent) were receiving 16,000-19,999 Php salary. The profiling of the principals revealed that many (36.7 percent) were between 41-50 years of age, majority (83.5 percent) were married, all were Meranaw, 48.1 percent were BS graduates with MA units, 38 percent specialized in general education, 30.4 percent have 30-35 years of service to their credit, and many (49.4 percent) were receiving above 24,000 Php monthly salary. In regard seminars and trainings attended: in K-12 program, majority (54.8 percent) of the teachers, while majority (64.6 percent) of the principals participated in the division level; managerial skills, many (29.7 percent) of the teachers, while majority (57 percent) of the principals attended the division level; human resource management, many (25.7 percent) of the teachers, while majority (50.6 percent) of the principals attended the division level; and, in 21st century skills, many (35.2 percent) of the teachers, while majority (50.6 percent) of the principals attended the same in the division level.

II. Human Resource Management of the Principals As Perceived by the Teachers and Principals

The overall result for the principals' human resource management practices is as follows: on recruitment and selection, the teachers agreed with a weighted mean of 2.823 and SD of 0.808 while the principal strongly agreed with a weighted mean of 3.334 and SD of 0.782; on performance appraisal, the teachers agreed with a weighted mean of 3.029 and SD of 0.647 while the principals strongly agreed with a weighted mean of 3.500 and 0.608; on remuneration, the teachers agreed with a weighted mean of 2.756 and SD of 0.782 while the principals agreed with a weighted mean of 3.194 and SD of 0.736; on training and development, the teachers agreed with a weighted mean of 3.144 and SD of 0.632 while the principals strongly agreed with a weighted mean of 3.573 and SD of 0.574; and on employee safety and health, the teachers agreed with a weighted mean of 3.060 and SD of 0.623 while the principals strongly agreed with a weighted mean of 3.525 and SD of 0.560.

III. Teachers' Global Competitiveness

The overall result for 21st century skills as bases of teachers' global competitiveness is as follows: on 21st century learning skills, the teachers agreed with a weighted mean of 3.233 and SD of 0.602 while the principals strongly agreed with weighted mean of 3.262 and SD of 0.653; on 21st century innovation skills, the teachers agreed with a weighted mean of 3.232 and SD of 0.608 while the principals strongly agreed with a weighted mean of 3.262 and SD of 0.703; on 21st century life and career, the teachers agreed with a weighted mean of 3.173 and SD of 0.602 while the principals strongly agreed with a weighted mean of 3.263 and SD of 0.677; and, on 21st century information, media, and technology, both groups of respondents agreed that their teachers were committed to it, with a weighted mean of 3.111 and SD of 0.597 for the teachers and weighted mean of 3.116 and SD of 0.656 for the principals.

IV. Problems Faced in Human Resource Management in Relation to Pursuing Teachers' Global Competitiveness

As observed or perceived by the two groups of respondents, problems plaguing human resource management are: the teacher-respondents moderately observed socio-cultural factors with a weighted mean of 2.616 and SD of 0.893 while the principal-respondents fairly observed with a weighted mean of 2.441 and SD of 0.907; problems pertaining to technology were reported by both groups, as moderately observed by the teachers with a weighted mean

of 2.871 and SD of 0.845 and by the principals with a weighted mean of 2.778 and SD of 0.870; economic factors as problematic was disclosed by both categories of respondents, moderately observed with a weighted mean of 2.812 and SD of 0.865 for the teachers and a weighted mean of 2.801 and SD of 1.206 for the principals; on political factors posing a problem, both groups of respondents had the same observation, moderately observed with a weighted mean of 2.697 and SD of 0.945 for the teachers and for the principals, a weighted mean of 2.563 and SD of 1.019.

V. Relationship Between the Human Resource Management and the Teachers’ Global Competitiveness

Table 1: Relationship between Human Resource Management and the Teachers’ Global Competitiveness as Perceived by the Teachers

	Relationship	Correlation coefficient	Analysis of <i>r</i>	<i>p</i> -value	Interpretation
Recruitment and Selection	Learning Skills	<i>r</i> =0.331	Low positive correlation	0.000*	Significant
	Innovation Skills	<i>r</i> =0.280	Very little correlation	0.000*	Significant
	Life and Career Skills	<i>r</i> =0.382	Low positive correlation	0.000*	Significant
	Information, Media, and Technology Skills	<i>r</i> =0.343	Low positive correlation	0.000*	Significant
Performance Appraisal	Learning skills	<i>r</i> =0.476	Low positive correlation	0.000*	Significant
	Innovation Skills	<i>r</i> =0.456	Low positive correlation	0.000*	Significant
	Life and Career Skills	<i>r</i> =0.497	Low positive correlation	0.000*	Significant
	Information, Media, and Technology Skills	<i>r</i> =0.475	Low positive correlation	0.000*	Significant
Remuneration	Learning Skills	<i>r</i> =0.406	Low positive correlation	0.000*	Significant
	Innovation Skills	<i>r</i> =0.408	Low positive correlation	0.000*	Significant
	Life and Career Skills	<i>r</i> =0.439	Low positive correlation	0.000*	Significant
	Information, Media, and Technology Skills	<i>r</i> =0.403	Low positive correlation	0.000*	Significant
Training and Development	Learning Skills	<i>r</i> =0.559	Moderate positive correlation	0.000*	Significant
	Innovation Skills	<i>r</i> =0.576	Moderate positive correlation	0.000*	Significant
	Life and Career Skills	<i>r</i> =0.587	Moderate positive correlation	0.000*	Significant
	Information, Media, and Technology Skills	<i>r</i> =0.504	Moderate positive correlation	0.000*	Significant
Employee Safety and Health	Learning Skills	<i>r</i> =0.499	Low positive correlation	0.000*	Significant
	Innovation Skills	<i>r</i> =0.508	Moderate positive correlation	0.000*	Significant
	Life and Career Skills	<i>r</i> =0.502	Low positive correlation	0.000*	Significant
	Information, Media, and Technology Skills	<i>r</i> =0.470	Low positive correlation	0.000*	Significant

Level of Significance: 0.05 Analysis of *r*: 1.00=“Perfection correlation”, 0.91-0.99=“Very high positive correlation”, 0.71-0.90=“High positive correlation”, 0.51-0.70=“Moderate positive correlation”
 0.31-0.50=“Low positive correlation, 0.01-0.30=Very little correlation, 0.00-“no correlation”

The table reveals that there was a significant relationship between the principals' human resource management practices (recruitment and selection) and the teachers' global competitiveness (learning skills), $r = 0.331$, $p < 0.05$; there was a significant relationship between the principals' human resource management practices (recruitment and selection) and the teachers' global competitiveness (innovation skills), $r = 0.280$, $p < 0.05$; there was a significant relationship between the principals' human resource management practices (recruitment and selection) and the teachers' global competitiveness (life and career skills), $r = 0.382$, $p < 0.05$; and, there was a significant relationship between the principals' human resource management practices (recruitment and selection) and the teachers' global competitiveness (information, media, and technology skills), $r = 0.343$, $p < 0.05$.

It shows that if the administrators have properly recruited and selected the qualified and competent teachers it is expected that their performances are in line with the demands and needs of the students and the society. Recruitment and selection may affect the outcome performances of the teachers. This implies that there was a significant relationship between the recruitment and selection and the 21st century skills of the teachers, the null hypothesis is rejected.

In overall, it is an indication that the practices of the principals in managing human resources affected the performance of the teaching to become global competitive teachers. Therefore, the null hypothesis was rejected because there was a great relationship between the practices of the principals and being globally competitive teachers.

Table 2: Relationship between the Human Resource Management and Teachers' Global Competitiveness as Perceived by the Principals

	Relationship	Correlation coefficient	Analysis of r	p -value	Interpretation
Recruitment and Selection	Learning Skills	$r = 0.355$	Low positive correlation	0.001*	Significant
	Innovation Skills	$r = 0.250$	Very little correlation	0.027*	Significant
	Life and Career Skills	$r = 0.348$	Low positive correlation	0.022*	Significant
	Information, Media, and Technology Skills	$r = 0.279$	Very little correlation	0.013*	Significant
Performance Appraisal	Learning Skills	$r = 0.416$	Low positive correlation	0.000*	Significant
	Innovation Skills	$r = 0.439$	Low positive correlation	0.000*	Significant
	Life and Career Skills	$r = 0.457$	Low positive correlation	0.000*	Significant
	Information, Media, and Technology Skills	$r = 0.397$	Low positive correlation	0.000*	Significant
Remuneration	Learning Skills	$r = 0.120$	Very little correlation	0.294	Not significant
	Innovation Skills	$r = 0.056$	Very little correlation	0.625	Not significant
	Life and Career Skills	$r = 0.032$	Very little correlation	0.777	Not significant
	Information, Media, and Technology Skills	$r = 0.007$	Very little correlation	0.955	Not significant
Training and Development	Learning Skills	$r = 0.200$	Very little correlation	0.078	Not significant
	Innovation Skills	$r = 0.220$	Very little correlation	0.051	Not significant

	Life and Career Skills	$r = 0.250$	Low positive correlation	0.026^*	Significant
	Information, Media, and Technology Skills	$r = 0.204$	Very little correlation	0.072	Not significant
Employee Safety and Health	Learning Skills	$r = 0.246$	Low positive correlation	0.029^*	Significant
	Innovation Skills	$r = 0.237$	Very little correlation	0.035^*	Significant
	Life and Career Skills	$r = 0.228$	Very little correlation	0.043^*	Significant
	Information, Media, and Technology Skills	$r = 0.208$	Very little correlation	0.065	Not significant

Level of Significance: 0.05 Analysis of r : 1.00="Perfection correlation", 0.91-0.99="Very high positive correlation", 0.71-0.90="High positive correlation", 0.51-0.70="Moderate positive correlation", 0.31-0.50="Low positive correlation, 0.01-0.30=Very little correlation, 0.00="no correlation"

The table discloses that for the recruitment and selection, there was a significant relationship between the principals' human resource management practices (recruitment and selection) and the teachers' global competitiveness (learning skills), $r = 0.355$, $p < 0.05$; there was a significant relationship between the principals' human resource management practices (recruitment and selection) and the teachers' global competitiveness (innovation skills), $r = 0.250$, $p < 0.05$; there was a significant relationship between the principals' human resource management practices (recruitment and selection) and the teachers' global competitiveness (life and career skills), $r = 0.348$, $p < 0.05$; and, there was a significant relationship between the principals' human resource management practices (recruitment and selection) and the teachers' global competitiveness (information, media, and technology skills), $r = 0.279$, $p < 0.05$.

This indicates that there is a significant relationship of the principals' practice in recruitment and selection to all identified categories of 21st century skills. This means that the null hypothesis is rejected. This also indicates that the principals' practice in recruiting and selecting applicants has great influence to the 21st century skills of the teachers.

Moreover, there is a clear need for a different set of skills for individuals to be successful in the 21st century. There is a growing consensus on what these skills are and the reasons for their demand. The literature describes the skills, but does not provide the specifics of how the skills are brought to life through the climate and routines, instruction and curriculum, and assessments, especially in an elementary school setting. This study shows how an elementary school creates these structures and school culture to meet the demands of the 21st century skills.

VI. Significant Difference Between the Perception of Teachers and Principals

Table 3: Significant Difference between the Perception of Principals and Teachers on the Human Resource Management Practices

Mean Difference		t -value	p -value	Interpretation
Principals	Recruitment and Selection	6.679	0.000*	Significant
Teachers				
Principals	Performance Appraisal	8.263	0.000*	Significant
Teachers				
Principals	Remuneration	7.900	0.000*	Significant

Teachers				
Principals	Training and Development	7.678	0.000*	Significant
Teachers				
Principals	Employee Safety and Health	8.197	0.000*	Significant
Teachers				

It reveals that there is a significant difference between the perceptions of the teachers and principals on human resource management in terms of recruitment and selection, t-value=6.679, $p < 0.05$; there was a significant difference between the principals and teachers perceptions on human resource management in terms of performance appraisal, t-value=8.263, $p < 0.05$; there was a significant difference between the principals and teachers perceptions on human resource management in terms of remuneration, t-value=7.900, $p < 0.05$; there was a significant difference between the principals and teachers perceptions on human resource management in terms of training and development, t-value=7.678, $p < 0.05$; there was a significant difference between the principals and teachers perceptions on human resource management in terms of employee safety and health, t-value=8.197, $p < 0.05$.

It signifies that there was a significant difference of teachers and principals' perception in human resource management of the principals. This denotes that the null hypothesis is disconfirmed because there is a significant difference of their perceptions. This is expected from the principals to have high self-assured and self-containment that they hundred percent played the roles, duties, and responsibilities of being school heads. They affirmed and displayed accountabilities in all aspects. Most important is having an effective communication between the respondents. They respect the line of authority at school and the members knew their span of control to avoid conflict. This indicates that they are work-oriented and have discipline in work. They are all eager to be part of globalization.

Conclusion

On the basis of the findings of the study, it can be concluded that both the teachers and school principals possess the qualities required to the position they are engaging with. The school principals were found to be practicing human resource managers while the teachers were perceived by their principals as enthusiastic in the implementation of the 21st century skills for global competitiveness. There was just a slight problem encountered related to socio-economic, technological, economic and political factors. Moreover, there was a significant relationship between the human resource management practices of the school principals and the 21st century global competitiveness of the teachers. However, the perception of the teachers and the school principal were significantly different. This could be an indication of their differences in terms of training and exposures.

Recommendations

Based on the findings and conclusion, the following recommendations were formulated: (1) Ages and services rendered should serve as the foundation to achieve principals and teachers' career plan goal and objectives. There is a need to reinforce their duties, responsibilities, and functions of being human resource managers and teachers through trainings and studying for professional growth and development like continuously procure and attain education by enrolling to post graduate and have specialized subject to master. They can be of competent if they have specialized subject to teach. They should teach primarily their major subjects and

secondarily their minor subjects to avoid ineffectiveness. So, they can impose new approach methods in managing teachers to obtain maximum outputs and achieve the goals of 21st century education; (2) On human resource management practices of the principals: they should forecast and ensure that the schools have the right size of workforce and qualified teachers with various levels of competencies to interpret and implement the K-12 curriculum excellently; they should place the right teachers in the right positions in which placement is based on their performance appraisal because proper placement gives satisfaction to employee and increases their efficiency in pursuing global competitiveness; a monthly school lecture seminars and trainings program should be implemented to address school chores and problems in attaining teachers' competitiveness. Also, there is a need to attend international seminars and trainings to experience and be vulnerable with the different perspective of education enhancement from different culture of education; they should be cognizant in giving the proper compensation and reward to motivate teachers to work at their fullest, for instance, overtime work should be reported for them to be paid what is due to them; and, the school should provide a welfare training program to guarantee that the teachers and students are safe from danger and a recreational program to secure happiness and comfort of the teachers. This can help both principals and teachers to lessen stress; (3) On the 21st century skills of the teachers for global competitiveness: there is a need for the teachers to prepare and engross themselves to the rapid progress of innovation and the media-driven environment in supporting the teaching-learning process to compete globally; There is a need to design and implement programs (seminars, trainings, and workshops) that can focus and concentrate in developing and improving the teachers' skills in different aspects of learning to attain globalization; and, education curriculum must be evaluated and improved every after five years to meet the constant changes and demands of the society and embrace the 21st century skills to produce globally competent teachers and students; (4) On the problems faced of the principals in pursuing global competitiveness: they must be ready to combat back the influences of the external factors in education. They should focus their attention and commitment in work despite of their status and problems faced; interference of political environment is melancholy; and, the local government officials should not obstruct the school's management of the principals especially in achieving globalization. For this, they should implement and attend moral and values reorientation/recovery program to promote self-direction, self-discipline, right ethics, and responsibility and accountability of their actions. Also, the educational sector should receive adequate budget from the government to address the school service pay and the monthly operating expenses in school; (5) On the relationship of principals' human resource management and teachers' global competitiveness, the human resource management should be sheared in different levels of proficiencies, so, principals should be skilled and possessed the traits and qualifications to confidently influence the teachers to compete globally because competitive or skilled teaching forces is the crucial and wisecrack to the rapid progress of socio-economic in national and international levels to come across globalization; (6) On the differences of the perceptions of the respondents, they should understand that their experiences and scope of mechanisms is in different levels of practices. They must have veneration of the line of authority and their span of control to assess their work modifications. What vital is they must possess self-direction and work-orientation; and, (7) A study on human resource management as it relates to global competitiveness of the teachers and other related topics like 21st century skills is worth pursuing. For a change and for purposes of comparison, the study can be conducted in other areas in the ARMM. It can give special emphasis to commonalities like shared cultural values. Another feasible and interesting study is one that compares the human resource management practices-teachers' global competitiveness link in private schools and public schools. As research-worthy is a comparative study of the human resource management

practices-teachers' global competitiveness in high-performing schools and low-performing schools in Lanao del Sur or some other locale in the neighboring regions.

References

- ACCTE and P21 (2010). *21st Century Knowledge and Skills In Educator Preparation*.
- Allen, M. (2006). *Strategic Human Resource Management and Firm Performance What Can we Learn from Small Business*. Published Thesis.
- Alnaqbi, W. (2011). *The Relationship Between Human Resource Practices and Employee Retention in Public Organisations: An Exploratory Study Conducted in the United Arab Emirates*. Edith Cowan University Copyright warning.
- Aminudin, N. (2012). *Teachers' Perceptions of the Impact of Professional Development of Teaching Practice: The Case of One Primary School*. Published Thesis.
- Anino, L. (2006). *Occupational Stress and other factors related to Teachers' Job Performance, a Proposed Stress-Coping Strategies Program*. Unpublished Thesis.
- Bacarat, N. (2003). *Management Practices of School Administrators in Teacher Education Institutions in the Autonomous Region in Muslim Mindanao*.
- Badron, C. (2008). *Readiness and Competencies of Arabic Language and Islamic Values Education (ALIVE) Teachers in the Non-Muslim and Muslim Regions in Mindanao: Basis for Policy Making*.
- Bauzon, P. (2006). *Handbook in Legal Bases of Education*. National Bookstore. Philippines.
- Civil Service Commission (1998). *Teachers Enhancement Seminar. Compilation of Pertinent Laws and Rules Affecting Public School Teachers*.
- Daud, N. (2006). *Human Resource Management Practices and Firm Performance: The Moderating Roles of Strategies and Environmental Uncertainties*. Published Thesis.
- De Leon H. (2005). *Textbook on the Philippine Constitution*. Rex Printing Company.
- Diampuan-Sarip, J. (2013). *A Comparative Study of the Implementation of the MTB_MLE in Private and Public Schools of Marawi City*.
- Djabatey, E. (2012). *Recruitment and Selection Practices of Organisations, A Case Study of HFC Bank*. Published Thesis.
- Gambrell, R. (2004). *The Order of Hierarchy*. Published Thesis.
- Gaphor, P. (2005). *Motivational Factors of Improving Employees' Performance of Selected Civil Societies in Lanao del Sur and Marawi City*. Unpublished Thesis.
- Gatab, E. (2003). *Factors Affecting Teaching Performance and Management of Learning Outcomes of Fourth Year Public Secondary School Teachers of Lanao Del Norte: Basis for an Intervention Program*.

- Gumal, A. (2011). *Factor Affecting the Teaching of Public High School Mathematics Teachers in the Provinces of Lanao Del Sur and Maguindanao*.
- H. Said, J. (2008). *Unethical Practices of Secondary students in Mapandi Elementary School*. Unpublished Thesis.
- Hadji Said, J. (2013). *Teacher's Work Motivation – Administrators' Leadership Styles Nexus*. Unpublished Thesis.
- Heneman, et al (1974). *Perspective on Personnel/Human Resource Management*. Printice Hall, Inc. United States of America.
- Itika, J. (2011). *Fundamentals of human resource management*. © University of Groningen / Mzumbe University. Published Thesis.
- Jerald, C. (2009). *Defining a 21st Century Education*.
- Joshi, M. (2013). *Human Resource Management*.
- Kaufhold, J. et al (2006). *Lack of School Supplies, Materials and Resources as an Elementary Cause of Frustration and Burnout in Texas Special Education Teachers*. Journal of Instruction Psychology.
- Laughridge, V. (2011). *The Relationship Between Professional Development and Teacher Change in the Implementation of Instructional Strategies that Support Elementary Students' Science Textbook Reading*. University of Nebraska-Lincoln, gingerj@millenicom.com
- Lumbaya, P. (2003). *Performance Management of Public Technical and Vocational Schools' Administrators*. Unpublished Thesis. Omebe, C. (2014) *British Journal on Education*. Europe. European Centre for Research Training and Development UK.
- Mizell, H. (2010). *Why Professional Development Matters*. © Learning Forward, 2010. All rights reserved. Reproduction.
- Mumbai C. (2008). *Introduction to Human Resource Management and Environment*.
- Nartey, D. (2012). *Recruitment and Selection Practices of Organizations, A Case Study of HFC Bank*. Published Case Study.
- Newstrom (2007). *Human Behavior and Organization*.
- Oakley, C. (2008). *Preparing Future Teachers for 21st Century Learning: Partnerships that enhance the capacity of pre-service education*. Deakin University Faculty of Arts and Education Centre for Educational Leadership and Renewal. Australia.
- Office of Postsecondary Education. (2008). *Legislation -- Teachers for a Competitive Tomorrow Program*. Published.

- Oplatka, I. (2006). *Teachers' Perceptions of Their Role in Educational Marketing: Insights from the Case of Edmonton, Alberta*. Published Thesis.
- Pacific Policy Research Center. (2006). *21st Century Skills for Students and Teachers*. 567 S. King Street, 4th Floor | Honolulu, HI 96813 | www.ksbe.edu/spi
- Partnership for 21st Century Skills and AACTE (2010). *21st Century Knowledge and Skills in Education Preparation*.
- Sahlberg, P. (2006) *Education Reform for Raising Economic Competitiveness*.
- Schwab, K. (2015). *The Global Competitiveness Report 2015-2016*. the World Economic Forum.
- Sze, M. (1995). *Human Resource Management*. Civil Service Branch.
- Verger, A. et al (2013). *Global Managerial Education Reforms and Teachers*.
- Villenes, R. & Serdon, O (2013). *The EDCOM Report of 1991: A Special Project in School Legislation*. Philippine Normal University.
- Wang, A. et al (2003). *Preparing Teachers Around the World*. Copyright © 2003 by Educational Testing Service. United of America.
- West, M. (2006). *Education and Global Competitiveness: Lessons for the United States from International Evidence*. <http://nrs.harvard.edu/urn-3:HUL.InstRepos:9544459>
- Yambesi, G. (2012). *The Contribution of Human Resource Management in Developing the required Human Capacity to Apply ICT in Public Service*. Published Thesis.
- Zuzovsky, R. et al (2014). *Teacher Supply and Demand: The School Level Perspective*. American Journal of Educational Research.

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***Reasonable Accommodation for Students With Disabilities in Japan:
A Language Program Administrator's Guide***

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Abstract

Starting in April 2024, Japan will mandate that companies offer essential services and infrastructure to support individuals with disabilities. This decree will involve implementing features like having sloped access points for wheelchairs, ensuring information accessibility, and making necessary modifications to ensure equal access to educational opportunities. The Act for Eliminating Discrimination against Persons with Disabilities was amended in May 2021. It will apply to all public organizations, private companies, and even higher education institutions, requiring these entities to provide reasonable accommodation if an individual with a disability makes a specific request. The Japan Student Services Organization (JASSO) has reported a steady increase in the number of students with disabilities (SWDs) that are enrolled in tertiary institutions each year, with data from 2022 revealing that approximately 1.53% of the total student population as SWDs while in 2006, it was listed at 0.16%. In light of this shifting paradigm, language educators and program administrators at Japanese tertiary institutions will continue to face the challenge of providing tailored support systems for these students. This paper aims to provide language practitioners—especially those in an administrative role—with a practical framework for effectively accommodating students with disabilities to meet their specific needs and provide guidance to the instructors in charge of teaching and service learning. It will explore the concept of reasonable accommodation regarding legal obligations and highlight critical areas that must be addressed to ensure adequate support to create an inclusive and accessible learning environment.

Keywords: Reasonable Accommodation, Students With Disabilities, Language Programs in Japan

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Introduction

With the recent legal mandates and amendments, implementing reasonable accommodations for students with disabilities in Japan is becoming increasingly important (Hasegawa, 2015). As Japan prepares to enforce essential services and infrastructure for individuals with disabilities, university administrators and educators must be well-informed and prepared to meet these new requirements (Dyliaeva et al., 2024; Matsuzaki & Shibata, 2022). The amended Act for Eliminating Discrimination against Persons with Disabilities, which will take effect in April 2024, underlines the need for reasonable accommodations in all public agencies, private enterprises, and higher education institutions. This signifies a significant shift in the educational landscape, emphasizing the creation of inclusive and accessible learning environments for students with disabilities.

In this context, language practitioners and administrators must comprehensively understand the legal obligations and practical frameworks for accommodating students with disabilities in Japanese tertiary institutions (Dyliaeva et al., 2024; Young et al., 2019;). This paper aims to provide valuable insights into the concept of reasonable accommodation, explore legal perspectives, and address critical areas that require attention to ensure tailored support and an inclusive learning environment for all students. It will also discuss changes in the number of SWDs within Japanese higher educational institutions and offer language program administrators and educators a framework to accommodate students with disabilities specifically for this context effectively.

Accommodation of Individuals With Disabilities in Japan: Legal Perspectives

The Act for Eliminating Discrimination against Persons with Disabilities was passed in June 2013 as an amendment to the Act on Employment Promotion etc. of Persons with Disabilities (Hasegawa, 2015). The law prohibits discrimination against individuals with disabilities in various aspects of life, including employment, education, and public services. The revised Act, which came into force in April 2016, requires business operators and educational institutions to provide reasonable accommodations to individuals with disabilities upon request. This mandate represents a significant shift from the previous system, which relied on a quota-based approach to employing individuals with disabilities (Boeltzig-Brown et al., 2013).

The Act prohibits discrimination against individuals with disabilities and requires public and private entities to provide reasonable accommodations. While the Act does not explicitly define a "reasonable accommodation," it sets out general principles that organizations must follow. Item 2 of Article 8, Prohibition of Discrimination based on Disability by Companies, states:

If a person with a disability expresses the genuine willingness to eliminate the social barrier, the company, in carrying out its business, must endeavor to provide reasonable accommodation to implement the elimination of the social barrier so long as the burden associated with the relevant implementation is not disproportionate, in accordance with the sex, age, and state of the disability of the person with a disability so that the rights and interests of the person with the disability is not violated.

The amended Act for Eliminating Discrimination against Persons with Disabilities, which takes effect in April 2024, now mandates that all public agencies, private enterprises, and

higher education institutions must offer reasonable accommodation upon request from individuals with disabilities. This includes provisions for implementing accessibility features such as wheelchair-accessible entry points, ensuring information is provided in accessible formats, and making necessary accommodations to guarantee equal educational opportunities (*Companies in Japan to be required to accommodate the disabled from next year*, 2023).

According to legal experts Otsuki, Nishiuchi, and Shimoda (2024), there are no explicit penalties for failing to provide reasonable accommodations as required by law. However, the relevant government minister may compel a business to disclose specific information if they deem it necessary to enforce the obligation to provide reasonable accommodations. Additionally, a business that neglects to file a report or submits a false report can face a non-criminal sanction of up to 200,000 Japanese yen.

In Japanese higher education, students with disabilities have a right to request reasonable accommodation to ensure equal access and participation in all aspects of their educational experience. Meeting these legal obligations while creating an inclusive environment for all learners is an essential responsibility for language program administrators.

Numbers of Students With Disabilities in Japanese Higher Education

The Japan Student Services Organization (JASSO) has reported a steady increase in students with disabilities enrolled in tertiary institutions in Japan. Data from 2022 indicates that approximately 1.53% of the total student population in Japan were students with disabilities, compared to just 0.16% in 2006 (JASSO, 2023). These figures suggest a growing awareness and acceptance of the need to provide educational opportunities for individuals with diverse needs. The types of disabilities represented in Japanese higher education span a wide range with JASSO's classification of SWDs, under which disabilities fall into eight broad categories: 1) visual impairments, 2) hearing and speech impairments, 3) physical impairments, 4) health impairments, 5) multiple disorders, 6) developmental disorders, 7) mental disorders, and 8) other disabilities (JASSO, 2023).

The types of disabilities and the total number of SWDs enrolled in Japanese higher educational institutions reported to JASSO have shifted dramatically in recent years. In 2006, of the 4,937 students reported to have a special need, 3,461 students, or 70.1%, fit into the three categories of visual impairments, hearing and speech impairments, and physical impairments (JASSO, 2007). By 2014, of the 14,127 students reported, the number of students in these three categories accounted for 4,898, or 34.7% of the total SWDs (JASSO, 2015). In 2022, of the 49,672 SWDs accounted for, only 4,811, or approximately 9.7%, were classified under the three categories (JASSO, 2023). Students in these three categories have remained relatively consistent over the years.

On the other hand, an analysis of the JASSO data indicates an increasing trend in the number of students classified under health impairments, mental disorders, and developmental disorders. In 2006, students classified under these headings accounted for 1,383 or 28% of SWDs enrolled in Japanese tertiary institutions. According to JASSO, in 2014, a total of 8903 students with disabilities were classified into three groups: health impairments, others, and developmental disorders (JASSO, 2015). These three categories accounted for 63.1% of all students with disabilities for this year. Prior to 2014, impairments such as psychiatric, mental, and intellectual disabilities were collectively categorized as "Others." In 2015, a new distinct category called "Mental disorders" was established to encompass psychiatric, mental, and

intellectual problems (JASSO Outline 2023-24). In 2015, adding the new category resulted in students with disabilities making up 72.7% of the total student disability population, amounting to 15,781 students (JASSO, 2016). In 2022, the combined total of students falling into these three categories reached 39,604, accounting for 79.7% of the total student population with disabilities in higher education institutions in Japan (JASSO, 2023).

Kondo et al. (2015) explain that it is probable that a considerable number of students with disabilities (SWD) have been enrolled in postsecondary education throughout Japan for an extended period. The recent increase in documented SWD enrollment may be attributed to a broader societal consciousness regarding disabilities. Given this shifting landscape, language educators and program administrators at Japanese universities will continue to face the challenge of delivering tailored support systems to meet the specific needs of students with disabilities. Providing reasonable accommodations and creating an inclusive learning environment is a legal requirement and an ethical imperative to ensure equitable access to educational opportunities.

The Author's Circumstances

The author currently serves as an administrator for an English-language program at a Japanese university. English as a Foreign Language is currently required for all first-year university students. Depending on the major, some students will continue to take required English classes in their second year. Each year, the institution strives to accommodate students with disabilities or special needs in an inclusive classroom environment.

Critical Components for an Effective Accommodations Framework

A practical framework for accommodating students with disabilities (SWDs) in a language program should incorporate key components outlined below. First, it should establish a transparent process for identifying students' needs and disabilities, including gathering detailed information about the nature and extent of their specific challenges. (Rodríguez, 2009)(Young, 2020) This will enable the program to develop tailored accommodations and support strategies.

Second, the framework should outline procedures for coordinating with the institution's disability services office, academic advisors, and relevant faculty to ensure a collaborative, whole-campus approach to supporting SWDs.(Izzo et al., 2001)(Young, 2020)(Hope, 2021) This coordination is crucial for streamlining accommodations, sharing information, and providing consistent support across the student's academic experience.

Third, the framework should include guidelines for training language instructors on effective teaching strategies, such as the Universal Design for Learning principles. (Universal Design as a Framework for Diversity, Equity, and Inclusion Initiatives in Higher Education, 2022). Equipping teachers with the knowledge and skills to create accessible and inclusive learning environments is essential for SWDs to thrive.

Fourth, the framework should incorporate continual evaluation and improvement mechanisms, such as feedback loops with SWDs, instructors, and other stakeholders. (Young, 2020)(Lowrey & Smith, 2018)This will allow the program to identify and address any gaps or shortcomings in the accommodations provided. This iterative process helps ensure that support systems remain relevant and responsive.

Fifth, the framework should include elements of self-advocacy training for SWDs, empowering them to understand their rights, communicate their needs, and actively participate in the accommodations process. (Cole & Cain, 1996) Simultaneously, it should incorporate service learning or experiential opportunities for non-disabled peers to foster greater disability awareness and inclusion. *Service learning* is a pedagogical approach that combines community service with academic learning, intending to enhance students' understanding of course content and foster a sense of civic responsibility (Furco & Norvell, 2019). By incorporating these key components, language programs can develop a proactive and responsive framework to provide reasonable accommodations and create an inclusive learning environment for students with disabilities (Cole & Cain, 1996; Young, 2020).

Finally, the framework should be flexible and adaptable, allowing customization to meet the unique needs of individual SWDs and the evolving legal and institutional requirements. By incorporating these key components, a language program can develop a comprehensive and practical accommodations framework to support students with disabilities.

Proposed Framework for Accommodating SWDs: Planning and Implementation

A holistic accommodations framework can provide a structured approach to addressing the diverse requirements of SWDs at the tertiary level. This type of framework should strive to eliminate environmental challenges and barriers to learning by considering a range of factors, including accessible course materials, assistive technologies, and specialized instructional strategies. The author suggests a distinct framework for the inclusive teaching of SWDs that incorporates elements for service learning, drawing on Young et al. (2019) and Young's (2020) eight-point framework for accommodating students with disabilities in language programs. The framework is designed to meet the special needs of students enrolled in a sequence of tertiary-level English as a Foreign Language (EFL) programs or in an EFL classroom. This framework's portability will vary depending on the nation, the institution, and the unique needs of each student. However, it was created to assist other educators who might be facing a situation similar to this one as a coordinator of a foreign language program or a language program. Specifically, the framework addresses how the university and its administrative and teaching staff can better serve and accommodate students with disabilities inside and outside the classroom.

Step 1: *Gather Information and Survey the Resources Available*

The individual responsible for coordinating efforts to assist SWDs must become acquainted with the institutional policies supporting these types of students during the initial stage of the framework. Concurrently, the individual should evaluate the legal requirements of any particular country. In certain instances, new laws may be amended and implemented after a specific calendar date. Moreover, the coordinator for students with disabilities (CSWD), hereafter referred to as CSWD, should ascertain which offices or individuals within the higher education institution are accountable for various responsibilities, including the support of SWDs, course registration, academic advising, the direction or management of student volunteers, and the resolution of issues or complaints. Furthermore, the CSWD should become acquainted with the campus layout, seating arrangements for specific classrooms, and the available assistive technologies. Lastly, the CSWD should familiarize themselves with the language program's objectives and aims and the textbooks or course materials used by the SWDs enrolled in the course or courses.

Step 2: *Get to Know the University Staff and Teaching Staff Members of the Institution*

One of the goals at this point is to establish relationships and foster trust with key individuals at the Support Office so that SWDs can work directly with them. If the CSWD gets to know these people, the institution may have a better chance of offering synchronous and aligned accommodations for SWDs. Another crucial aspect is to clarify specific roles, clearly define the assigned tasks, coordinate efforts and language-instruction-related adjustments within each institutional category, and identify the individuals accountable for these responsibilities. By doing so, the CSWD can proactively identify any institutional issues or administrative obstacles that may arise in advance. This allows for determining whether linguistic or cultural obstacles to communication could impede or slow communication. Occasionally, locating an individual with multilingual and cross-cultural skills who can effectively navigate communication barriers between different departments and divisions may be necessary.

Knowing the institution's faculty would be another crucial step and component for the CSWD. The person determining which teacher will instruct the SWD should ideally have experience in supervising roles and a good understanding of the unique talents, personalities, and temperaments of the language instructors who work there. In certain instances, the CSWD could already be in a supervisory position of the EFL instructors. In other cases, these two roles might be separated. If the CSWD does not know the program's instructors well, they must ask someone better acquainted with them for guidance or insight for teacher assignments. Interjecting another stakeholder will add another layer of coordination and communication to the entire process. This highlights the importance of administrators and their teaching staff maintaining regular contact and being consistently observed. In addition to serving as a tool for providing instructional feedback and professional development, it also emphasizes the significance of regular teacher observations and evaluations in fostering trust and connections among staff members.

Step 3: *Meet, Interview, and Learn About the Student With the Disability or Personal Circumstances*

The objective of this stage is to establish communication and cultivate an ongoing relationship with the student with the assistance of the Office for Student Support. The CSWD would meet with the student to obtain additional information about their disability, long-term academic and professional objectives, and other relevant aspects of their life (such as the duration of their commute to the university). This information would determine the appropriate class or language program placement for the student. Concurrently, the CSWD must assess the student's language competency in the targeted instructional language to make a well-informed decision about which class to assign them.

At this point, it is crucial to obtain information on the student's previous educational background and the specific language learning activities or general coursework they were involved in throughout high school or junior high. Simultaneously, identifying the specific assistive technology the students are most familiar with can aid the CSWD and the language teacher assess and determine the most effective means of accommodating the student. It should be noted that in certain instances, students may want to be discreet or may not necessarily offer a response. It is essential to record any collected data to be passed on and utilized in the following stages specified in this framework to assist SWDs.

Step 4: Select an Appropriate Teacher and Assemble a Support Team for the SWD-Teacher Tandem

During the subsequent phase of the support framework, the CSWD should begin the process of choosing a suitable teacher to collaborate with the particular SWD. The college-level language classroom will provide an inclusive educational environment where students with disabilities (SWD) will be integrated with their peers. Before enrollment, the student's language competence level should be assessed to establish the appropriate class and textbook level. Subsequently, the CSWD should select the most appropriate instructor by considering the optimal match for the student. According to Young et al. (2019), it is advisable to choose an instructor for students with disabilities based on their previous experience dealing with such students, their competence in the first language, their overall behavior and attitude, their gender, and the duration of their tenure in the program. Typically, a first-year teacher unfamiliar with the program would not be the most suitable candidate, as they would be required to develop most of their lesson plans from the start. An instructor with greater experience and a longer tenure in the program would be a better match for a pairing. The CSWD should be mindful that the instructor's workload must also be considered, including the frequency of class meetings and the length of each session. A class that convenes two or three times per week needs more time to strategize, modify the curriculum, and accommodate SWDs than a class that meets just once a week. Before assigning the duty of teaching the SWD, the CSWD, in conjunction with other program administrators, should directly correspond and meet with the instructor and provide them with any pertinent information. If feasible, the language program should look for ways to reduce the teaching workload or other program-related obligations for that specific instructor.

After the instructor has been assigned, the CSWD should assemble a support team consisting of staff members from the Support Office and registrar's office, departmental administrators associated with the student, other language program administrators, and instructors with previous experience working with students with disabilities. The team can collaboratively assess, often in consultation with the student, which adjustments can be implemented and to what degree to best suit the individual's needs.

Step 5: Create a Student-Specific Educational Plan Tailored to the Needs of the Student With Disabilities

The CSWD should arrange a meeting with the support team members to specify the adjustments or interventions required for the specific student to assist them in achieving lesson or course objectives (Young et al., 2019). The data collected during the initial interview with the student will be valuable in this decision-making process for creating a customized educational plan that is suitable for the specific student. Simultaneously, the CSWD and teacher team should remain cognizant of the possibility that specific elements may require modification or fine-tuning at any point over the semester. The teacher should also consider suitable forms of homework assignments or assessment methods for the student. The student's proficiency in using particular assistive technology will significantly impact their ability to successfully complete an assignment or project. The student may occasionally require assistance or direct guidance outside of class to effectively handle a program's functionality or use a device.

An additional crucial factor to take into account will be guaranteeing the accessibility of information throughout the lesson. Before the start of the scheduled class sessions and the semester, it is essential to convert class textbooks, handouts, visual materials, PowerPoint slides, and audio files into textual data based on a student's specific needs. In Japanese higher

education institutions, the Student Support Center is frequently tasked with converting written information into computerized data. Depending on the required transcribing time, the office will request the instructor to send files one or two weeks before the scheduled lesson. Alternatively, they may inquire about the specific pages from the textbook that will be needed for a specific lesson day on short notice.

Consequently, the educator must consistently have their lesson ideas planned in advance. Simultaneously, the lesson plans must be meticulously designed and managed to ensure that students with SWDs can actively engage in the lessons. Additionally, teachers may be required to deconstruct specific textbook assignments into additional steps to facilitate students' comprehension. They will be required to predetermine the appropriateness of the task before the lesson day and make a deliberate decision regarding its inclusion or exclusion in the lesson plan's sequence.

Step 6: Facilitate Day One and Week One Interactions

As the semester commences, the CSWD should facilitate the initial point of contact between the assigned teacher and the support staff through email or in person. The CSWD can initially be an intermediary between the Student Support Office and the instructor. However, the ultimate objective is for the instructor and the Student Support Office to be able to communicate directly with one another. The more direct the communication between the parties, the more efficient the process can be.

Another crucial responsibility of the CSWD is facilitating communication between SWDs and their assigned teacher for the semester or year. Whenever possible, it is beneficial for the CSWD to facilitate a face-to-face meeting between the instructor and the student before the first class. This allows them to establish a connection and get to know each other. This will enable all parties and stakeholders to better understand one another prior to the commencement of the class, including the other students present in the classroom on the first day. It will also enable students to become acquainted with the instructor's vocal qualities, appearance, or other characteristics.

Similarly, it will enable the instructor to gain a more comprehensive understanding of the student's condition and inquire about their preferences regarding how they would like to be addressed during the class. It can also promote informational exchange or be used as an opportunity to explain essential information about the class in advance. This can also serve as an opportunity for the student and the instructor to engage in a dialogue regarding the course's expectations and other aspects, including pacing, course themes or content, assignment submission, and methods for conducting tests or other forms of assessment throughout the semester.

Step 7: Monitor the Progress of SWDs and Teachers Throughout the Semester or Year

After the course commences, entrusting the teacher-student partnership and regularly checking in on the teacher and student regarding the course's progress is essential. During the semester, the customized educational plan developed in Step 5 can function as a blueprint and be modified or altered in response to new challenges or issues. Young et al. (2019) suggest that observing the instructor and teacher at various stages of the semester, including the first few weeks of the course and the midpoint, is beneficial. The CSWD must maintain the current course of action if the teacher-student tandem performs well. Nevertheless, it will be crucial to consult with the support team in Step 4 of the framework and make the necessary adjustments if things are not going well or a specific issue arises. The function of student

volunteers in the classroom would also be an ideal opportunity to be discussed. It would also be a prime opportunity to assess how other EFL students interact or embrace their classmates as peers.

Step 8: Provide Opportunities for the Student and the Assigned Instructor to Reflect and Receive Feedback

At the conclusion of the semester, the CSWD will conduct an interview with the student to collect information on the effectiveness and shortcomings of their learning experiences. This comprises various aspects such as the pace at which individual lessons are conducted, the order in which tasks and language activities are arranged, the ease of accessing the content in textbooks and other handouts used in the class, the level of interaction among peers through pair work and group work, the quality of instructions and explanations provided by the teacher, the level of difficulty of the language presented in the textbooks or class materials, the level of complexity or simplicity in completing assignments, the appropriateness of assessment measures (for example, whether the tests were excessively challenging or manageable, whether the student had sufficient preparation for what was expected, etc.), and the student's personal preferences and experiences in the class, including any problems or issues encountered during enrollment. The information provided by the students should be recorded, along with any details on attendance and grades. Depending on the specific circumstances, this interview can either involve the student and teacher together or be performed separately with additional officials or university staff members.

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The CSWD should initiate a conversation with the teacher after the semester to analyze, ascertain, and record the successful aspects and major obstacles encountered in integrating the SWD into the course. This can enhance the teacher's process of introspection and prove beneficial, particularly if the educator has the same student in their class for the subsequent semester. It is important to compile and analyze the exchanges with the teacher, their insights, and any acquired knowledge or advice. Subsequently, this material may be disseminated to other educators participating in the program and beyond who may have SWDs enrolled in their classrooms. Administrators might concurrently integrate these initiatives with forthcoming professional development and training prospects for university workers and language program instructors.

Other Considerations Towards Successful Implementation

In addition to the systematic steps outlined above, language program administrators should consider a few additional factors when providing reasonable accommodations for students with disabilities.

First, it is essential to recognize that students with disabilities are not a uniform group, as the nature and severity of their disabilities can vary considerably. As such, the accommodations required by each student may be unique and will need to be tailored accordingly (Cole & Cain, 1996; Young, 2020).

Second, it is important to maintain open and ongoing communication with students, instructors, and other stakeholders throughout the process. This will help ensure that any issues or concerns are addressed promptly and that the accommodations meet the student's needs (Mamboleo et al., 2015).

Third, if a specific student needs to take several classes over the year or semester, the responsibility of teaching the SWD should be shared with multiple instructors. This would prevent a single instructor from becoming overburdened and ensure that the student's needs are consistently met across their courses.

Fourth, embrace or instill the concept of "*yo-yu*" (余裕) when utilizing a framework for accommodating SWDs. In Japanese, this word or concept can be roughly translated as "surplus," which means having enough room or ample time to adjust to a situation. This would potentially allow for things such as:

- Emotional leeway for accepting differences or the way things are;
- Room for error or flexibility to adapt or modify;
- Time to spare (to have conversations, plan, and implement ideas);
- Time for self-reflection and;
- Ample time for accounting for the "unexpected."

In order to effectively support students with disabilities, teachers and administrators need to have enough time and effort to plan and collaborate. They also require additional time to meet and work with the students. It is important to understand that creating and implementing an individualized accommodation plan involves building trust and getting to know each other. Additionally, depending on the specific needs of students with disabilities, administrators should consider reducing teaching loads or finding other ways to lessen responsibilities for teachers. The workload adjustment would give teachers the time to plan, make adjustments, and try out different aspects of their teaching.

Fifth, teachers and students should proactively seek ways to incorporate and harness assistive technologies to support SWDs (Courtad & Bouck, 2013; Greer et al., 2014). For example, screen readers, text-to-speech software, and other accessibility tools can greatly benefit students with visual or learning disabilities. Program administrators should ensure that such technologies are readily available and that faculty and students are trained on their proper use and integration into the curriculum (Belova, 2017).

Finally, language program administrators should strive to create an inclusive and welcoming environment for all students, regardless of their abilities. This may involve providing training and resources for instructors, promoting disability awareness among the student body, and

ensuring that the physical and virtual learning spaces are accessible (Jain et al., 2020; Wright & Meyer, 2017).

Conclusion

Providing reasonable accommodations for students with disabilities in language programs is a legal and ethical necessity. By following the systematic approach outlined in this guide, language program administrators can develop and implement effective accommodation plans tailored to the individual needs of students with disabilities. The implementation of reasonable accommodations not only helps to meet the challenges that students encounter, but it also benefits teaching staff by alleviating concerns and addressing barriers, including the stigma surrounding hidden disabilities (Edwards et al., 2022). Maintaining open communication, fostering an inclusive culture, and recognizing each student's unique strengths and challenges are key to this process.

Fostering a culture of collaboration and partnership among language educators, students, and disability service providers can significantly improve supporting students with disabilities in language education programs. By promoting collaboration, educators can effectively establish support systems to meet the diverse needs of students with disabilities (Hewett et al., 2017). As more students with diverse abilities enter higher education, language programs must be proactive in their efforts to support and empower all learners. The author hopes that university language programs and administrators can embrace the concept of "yo-yu" as they work to provide inclusive, adaptive, and responsive learning environments for students with disabilities.

References

- Belova, T. (2017). Accessible Language: Foreign Language Teaching Strategies for Blind and Visually Impaired Students. <https://doi.org/10.2991/icadce-17.2017.143>
- Boeltzig-Brown, H. (2017). Disability and career services provision for students with disabilities at institutions of higher education in Japan: An overview of key legislation, policies, and practices. *Journal of Postsecondary Education and Disability*, 30(1), 61–81. <https://doi.org/10.3233/jvr-130632>
- Cole, B S., & Cain, M W. (1996). Social Work Students with Disabilities: A Proactive Approach to Accommodation. *Taylor & Francis*, 32(3), 339–349. <https://doi.org/10.1080/10437797.1996.10778465>
- Courtad, C A., & Bouck, E C. (2013). Assistive Technology for Students with Learning Disabilities. Emerald Publishing Limited, 153–173. [https://doi.org/10.1108/s0270-4013\(2013\)0000025011](https://doi.org/10.1108/s0270-4013(2013)0000025011)
- Dyliaeva, K., Rothman, S., & Ghotbi, N. (2024). Challenges to Inclusive Education for Students with Disabilities in Japanese Higher Education Institutions. *Laureate Education*, 14(1). <https://doi.org/10.18870/hlrc.v14i1.1453>
- Edwards, M., Poed, S., Al-Nawab, H.F., & Penna, O. (2022). Academic accommodations for university students living with disability and the potential of universal design to address their needs. *Higher Education*, pp. 84, 779–799. <https://link.springer.com/article/10.1007/s10734-021-00800-w>
- Furco, A., & Norvell, K. (2019). What is service learning? *Embedding Service Learning in European Higher Education*.
- Greer, D.L., Rowland, A., & Smith, S.J. (2014). Critical Considerations for Teaching Students With Disabilities in Online Environments. *TEACHING Exceptional Children*, 46, 79–91. <https://doi.org/10.1177/0040059914528105>
- Hasegawa, T. (2015). Reasonable accommodation for persons with disabilities in Japan. *Japan Labor Review*, pp. 12, 21–37.
- Hewett, R., Douglas, G., McLinden, M., & Keil, S. (2017). Developing an inclusive learning environment for students with visual impairment in higher education: progressive mutual accommodation and learner experiences in the United Kingdom. *European Journal of Special Needs Education*, 32, 109 - 89.
- Hope, J. (2021). Adopt framework that promotes collaboration for providing disability services. *Disability Compliance for Higher Education*. <https://doi.org/10.1002/dhe.31081>
- Izzo, M., Hertzfeld, J.E., Simmons-Reed, E.A., & Aaron, J.H. (2001). Promising Practices: Improving the Quality of Higher Education for Students with Disabilities. *Disability Studies Quarterly*, 21. <https://doi.org/10.18061/dsq.v21i1.251>

- Jain, D., Potluri, V., & Sharif, A. (2020). Navigating Graduate School with a Disability. *Proceedings of the 22nd International ACM SIGACCESS Conference on Computers and Accessibility*. <https://doi.org/10.1145/3373625.3416986>
- Japan Student Services Organization [JASSO]. (2006). Heisei Jyu-nana-nedo (2005 nendo) daigaku, tanki daigaku oyobi kōtō senmon gakkō ni okeru shōgai no aru gakusei no shūgaku shien ni kansuru jittai chōsa kekka hōkokusho [2005 Survey report on learning supports for students with disabilities in universities, junior colleges, and technical colleges]. https://www.jasso.go.jp/statistics/gakusei_shogai_syugaku/__icsFiles/afieldfile/2021/02/09/chosa05_houkoku_1.pdf
- Japan Student Services Organization [JASSO]. (2010). Heisei Nijyu-ni-nedo (2009 nendo) daigaku, tanki daigaku oyobi kōtō senmon gakkō ni okeru shōgai no aru gakusei no shūgaku shien ni kansuru jittai chōsa kekka hōkokusho [2009 Survey report on learning supports for students with disabilities in universities, junior colleges, and technical colleges]. https://www.jasso.go.jp/statistics/gakusei_shogai_syugaku/__icsFiles/afieldfile/2021/02/10/2010hokokusho_1.pdf
- Japan Student Services Organization [JASSO]. (2014). Heisei Nijyu-roku-nedo (2013 nendo) daigaku, tanki daigaku oyobi kōtō senmon gakkō ni okeru shōgai no aru gakusei no shūgaku shien ni kansuru jittai chōsa kekka hōkokusho [2013 Survey report on learning supports for students with disabilities in universities, junior colleges, and technical colleges]. https://www.jasso.go.jp/statistics/gakusei_shogai_syugaku/__icsFiles/afieldfile/2024/03/22/h26report.pdf
- Japan Student Services Organization [JASSO]. (2018). Heisei Nijyu-kyuu-nedo (2017 nendo) daigaku, tanki daigaku oyobi kōtō senmon gakkō ni okeru shōgai no aru gakusei no shūgaku shien ni kansuru jittai chōsa kekka hōkokusho [2017 Survey report on learning supports for students with disabilities in universities, junior colleges, and technical colleges]. https://www.jasso.go.jp/statistics/gakusei_shogai_syugaku/__icsFiles/afieldfile/2024/03/22/h29report_3.pdf
- Japan Student Services Organization [JASSO]. (2022). Reiwa-Ni-nedo (2021 nendo) daigaku, tanki daigaku oyobi kōtō senmon gakkō ni okeru shōgai no aru gakusei no shūgaku shien ni kansuru jittai chōsa kekka hōkokusho [2021 Survey report on learning supports for students with disabilities in universities, junior colleges, and technical colleges]. https://www.jasso.go.jp/statistics/gakusei_shogai_syugaku/__icsFiles/afieldfile/2022/08/17/2021_houkoku_2.pdf

- Japan Student Services Organization [JASSO]. (2023). Reiwa Yo-nendo (2022 nendo) daigaku, tanki daigaku oyobi kōtō senmon gakkō ni okeru shōgai no aru gakusei no shūgaku shien ni kansuru jittai chōsa kekka hōkokusho [2022 Survey report on learning supports for students with disabilities in universities, junior colleges, and technical colleges]. https://www.jasso.go.jp/statistics/gakusei_shogai_syugaku/__icsFiles/afieldfile/2023/09/13/2022_houkoku3.pdf
- Japan Student Services Organization [JASSO]. (2023). *JASSO Outline 2023-24*. https://www.jasso.go.jp/en/about/organization/__icsFiles/afieldfile/2023/09/05/jasso_outline2023-2024.pdf
- Kondo, T., Takahashi, T., & Shirasawa, M. (2015). Recent progress and future challenges in disability student services in Japan. *Journal of Postsecondary Education and Disability*, 28(4), 421–431.
- Lowrey, K.A., & Smith, S.J. (2018). Including Individuals With Disabilities in UDL Framework Implementation: Insights From Administrators. *Inclusion*. <https://doi.org/10.1352/2326-6988-6.2.127>
- Mamboleo, G., Meyer, L., Georgieva, Z., Curtis, R., Dong, S., & Stender, L.M. (2015). Students with Disabilities' Self-Report on Perceptions toward Disclosing Disability and Faculty's Willingness to Provide Accommodations. *Rehabilitation counselors and educators journal*, 8 2, 8-19. <https://pubmed.ncbi.nlm.nih.gov/31008459>
- Otsuki, K., Nishiuchi, A., & Shimoda, M. (2024). Obligation to Provide “Reasonable Accommodation” in Accordance with Amendments to Act for Eliminating Discrimination against Persons with Disabilities. *LABOR AND EMPLOYMENT LAW BULLETIN*. https://www.amt-law.com/asset/pdf/bulletins9_pdf/LELB63.pdf
- Ruddick, M., & Pryor, S. (2021). English language teaching faculty members' knowledge and awareness of special educational needs at universities in Japan: A qualitative study. *English as a Foreign Language International Journal*, 1(3), 46–65. <https://doi.org/10.56498/822562021>
- Vervloed, M.P., Loijens, N.E., & Waller, S.E. (2014). Teaching the Meaning of Words to Children with Visual Impairments. *Journal of Visual Impairment & Blindness*, 108, 433 - 438.
- Young, D., Schaefer, M. Y., & Lesley, J. (2019). Accommodating students with disabilities studying English as a foreign language. *Journal of Postsecondary Education and Disability*, 32, 311–319. <https://files.eric.ed.gov/fulltext/EJ1236800.pdf>
- Young, D. (2020). Guide to Systematizing Support for Students with Disabilities in Postsecondary EFL. *Latin American Journal of Content and Language Integrated Learning*, 13, 26-42.

UX Research on Chabot-Guided Tours: A Case Study of the YunTech USR Exhibition

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Abstract

Chatbots have increasingly gained popularity in museums and exhibitions, enhancing visitors' self-guided tour experiences. Compared to traditional tours, chatbots offer more personalized interactions, providing new version to the exhibition. This study, taking the YunTech Sustainable Expo as a case, explores whether visitors with varying levels of technological experience require more guided experiences on Chatbot-guide. Employing survey research through the Facebook Messenger platform to integrate chatbots, the sample consisted of visitors who have used Messenger and visited the exhibition. A total of 148 questionnaires were collected, analyzed descriptively, and subjected to t-tests. The reliability analysis of the questionnaire showed a Cronbach's alpha of 0.832, indicating high reliability, and factor analysis revealed two main factors: satisfaction with effectiveness and interactive experience. The guide chatbot can enhance interactive experience and satisfaction. The system design is reasonable and easy to use, but operational procedures and interface design need optimization, including enhanced guidance for beginners and real-time help features. In providing more exhibition information, it is essential to balance the amount of information to meet the needs of most visitors. It is recommended to offer personalized options, use AI and machine learning technologies to optimize response accuracy and interactivity, add multimedia content to enhance visual and auditory experiences. For neutral and dissatisfied visitors, further investigation into their needs is necessary for targeted improvements, continuously optimizing system functions and improving service quality to gradually increase overall user satisfaction.

Keywords: Chatbot-Guide, User Experience, Digital Guide, Usability Evaluation

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1. Introduction

Over the past few years, text messaging-based conversational agents (CAs), commonly known as chatbots, have garnered widespread attention. These chatbots, utilized on social media or chat messaging platforms, offer the convenience of no-download installation (Jain, Kumar, Kota, & Patel, 2018). Initially, their application was limited to simulating human conversation, but with technological advancements, their scope has expanded to various fields, including initial consultation services and precise customization needs, developing into intelligent assistants providing advisory services (Abokhodair, Yoo, & McDonald, 2015; Woolley, 2016; Chaves & Gerosa, 2021). Recently, chatbots have emphasized the portability of mobile devices and sensor functionalities, offering personalized user experiences (Haugeland, Følstad, Taylor, & Bjørkli, 2022). However, such technology often faces challenges due to a lack of interaction with visitors and the inability to continuously update, which can affect visitors' attention to exhibits (Varitimiadis, Kotis, Pittou, & Konstantakis, 2021).

In recent years, exhibitions have increasingly become visitor-centered (Sheng & Chen, 2012), and visitors now require not just flashy technological applications, but also an understanding of the narrative, creativity, and humanized interactive technology of the exhibition (Følstad & Taylor, 2021). The services provided by chatbots can offer valuable and enjoyable experiences for visitors, increasing their dependence on them (Bernhaupt, 2010). Therefore, designers should carefully evaluate and test the chatbot experience services to understand the key factors of visitor experience (Følstad & Taylor, 2021). In the application of chatbots, the most common issues are the naturalness of responses and whether the script design meets visitor needs. This can be achieved through computer programs that simulate human conversation via text or voice interactions (Schaffer, Gustke, Oldemeier, & Reithinger, 2018), with the dialogue framework functionality and knowledge graph script design being crucial (Khawan, 2021; Shawcroft, Gale, Workman, Leiter, Jorgensen-Wells, & Jensen, 2022).

Research indicates that chatbots have great potential in tour guide services, as they can address issues such as staff shortages, emergency scheduling, and interruptions in traditional guided tours (Sernani et al. 2020). This is because traditional digital tour guide systems are often one-way and cannot answer visitor questions, whereas chatbots offer a new solution (Bahja, Hammad, & Hassouna, 2019). Many studies have explored user experiences with chatbots (Følstad & Brandtzaeg, 2020); however, this study aims to examine whether there are significant differences in satisfaction and interactive experience with chatbots among visitors with varying levels of technological experience. Additionally, the study seeks to identify the most common problems and challenges faced by visitors when using chatbots and provide recommendations for improving chatbot design based on the research findings.

2. Literature Review

2.1 History and Development of Chatbots

In 1995, with the rapid development of the internet, ALICE became the first chatbot to use the "Turing test" to mimic human conversation (Al-Amin et al., 2024). In 2001, ActiveBuddy developed SmarterChild for AOL Instant Messenger, marking a turning point for conversational agents (CAs). SmarterChild was able to provide various services and interact with databases, but it still had significant limitations (Lessio & Morris, 2020). The emergence

of smartphones and advancements in natural language processing (NLP) led to the creation of more advanced voice-activated chatbots (Nimavat & Champaneria, 2017; Kepuska & Bohouta, 2018). Although chatbots have existed for decades, they only gained widespread attention in the spring of 2016. This resurgence was driven by major advancements in artificial intelligence (AI) and a large-scale shift from online social networks to mobile messaging applications such as Facebook Messenger, Telegram, Slack, Kik, and Viber (Brandtzaeg & Følstad, 2018).

By 2020, further advancements in AI, machine learning, and deep learning had revolutionized chatbots. These chatbots were capable of more complex contextual conversations and were applied in various fields, including customer service, psychological counseling, and personal assistants (Varitimiadis et al., 2020; Ashfaque, 2022; Casheekar et al., 2024).

In summary, with improvements in the design and functionality of chatbots, they have gradually been applied in the fields of education and entertainment in recent years (Sernani et al. 2020). They are particularly well-suited for use on mobile devices that support visual, voice, and touch interactions (Bahja, Hammad, & Hassouna, 2019). These applications not only enhance learning outcomes but also allow users to become more deeply immersed in the learning process (Fadhil & Villafiorita, 2017; Clarizia et al., 2018; Ruan et al., 2019).

2.2 Applications of Chatbots

Museums utilize chatbots as digital guides or simple Q&A information agents, and sometimes even in more complex roles as tour planners to enhance visitor engagement (Tzouganatou, 2018). Current examples include:

Anne Frank House Chatbot: Set up on Facebook Messenger, it guides visitors through exhibits using buttons to prevent confusion. The chatbot is designed to operate within the museum's context to avoid inappropriate behavior (Boiano et al., 2018; Tzouganatou, 2018).

Maxxi's Chatbot: Developed using Google's Dialogflow and integrated into the museum's Facebook page, it guides users along specific routes through text or images, enhancing user engagement with multimedia content, rewards, and well-crafted conversations (Engineering, 2024).

Di Casa In Casa Adventour Chatbot: Developed on the Wit.ai platform, this chatbot uses gamification techniques to attract visitors through a treasure hunt by finding clues and learning new things. Despite lacking free conversation skills, it creates realistic nonlinear narrative dialogues to engage visitors (Boiano et al., 2018; Tzouganatou, 2018).

Based on the services provided by the above chatbots, they can be categorized into three types:

- (A) Simple QA information chatbots that provide basic information about the exhibition areas and exhibits with limited conversational abilities.
- (B) Chatbots with predefined routes, where visitors obtain exhibition information through pre-defined dialogue paths with limited conversational abilities.
- (C) Gamified and reward chatbots, where visitors follow dialogue paths and are attracted by rewards and gamified functions such as treasure hunts, with limited conversational abilities.

These classifications help in understanding the application scope and functionality of chatbots.

2.3 User Experience Design in Chatbots

Chatbots have rapidly developed and become prevalent in fields such as healthcare, education, and consumer services. Thus, considering their usability in design is crucial (Kuhail, Farooq, & Almutairi, 2023). Visitor experience encompasses emotions, preferences, perceptions, and reactions before, during (ISO, 2019), and after using the interactive system, influenced by two main factors: pragmatic quality (usefulness, effectiveness, and efficiency of the system) and hedonic quality (pleasure aspects of interaction, including system stimulation, identification, and arousal capabilities). According to the hedonic-pragmatic model, solutions with strong pragmatic and hedonic qualities may be precisely what users need (Haugeland, Følstad, Taylor, & Bjørkli, 2022).

Chat design has gained significant attention in recent years and is an essential process for developing effective chatbots. It includes observing visitor interactions, defining visitor goals, shaping dialogues, determining agent roles, presetting messages, and conducting prototyping and testing (Moore & Arar, 2019). Before designing the interaction scripts for chatbots, it is necessary to understand the chatbot's purpose, target audience, and the types of tasks that need to be completed. Chatbots should have rich interactive features, such as audio, images, and maps, to provide a good visitor experience (Pricilla, Lestari, & Dharma, 2018).

Some researchers have proposed preliminary frameworks for designing content adaptive to mobile web and evaluating how handheld devices interact with visitors to enhance the exhibition experience (Noh & Hong, 2021). With the application of new technologies in exhibitions, many studies have begun investigating how to measure visitors' subjective experiences to better understand how they enjoy and experience exhibitions. Some information systems research indicates that for inexperienced users, system usefulness is the most important factor in determining whether they use it, while experienced users may consider other factors. Therefore, user experience design is relatively important for chatbots.

2.4 Summary

Chatbots have significantly changed and enhanced tour guide services by enabling two-way interaction and providing better visitor experiences. This study investigates whether there are significant differences in satisfaction and interactive experiences with chatbots among visitors with varying levels of technological experience and how chatbots impact overall satisfaction.

3. Research Design

This study employs a case study method, which is primarily a method for studying real-life situations or events (Hoa, Huy, Le Thi Thanh Huong, & Trung, 2021). It focuses on the first-time introduction of chatbots at the YunTech USR Exhibition, with a clear scope and specific application context, demonstrating significant research value.

For data collection, a questionnaire survey was primarily used, utilizing the online system Survey Cake for compilation and analysis. Facebook Messenger was chosen as the communication tool to conveniently set up the YunTech USR Exhibition-specific chatbot,

offering real-time messaging, voice, video, and multimedia sharing functionalities. The research was conducted in August 2022 at the YunTech USR Exhibition during the Asia-Pacific Expo in Taipei. Visitors were required to experience the chatbot before filling out the questionnaire. A total of 148 questionnaires were collected and subjected to descriptive analysis and t-tests. The reliability analysis of the questionnaire showed a Cronbach's alpha of 0.832, indicating high reliability.

Through questionnaire surveys, it analyzes the problems and challenges visitors encounter during usage and proposes improvement suggestions. The research framework is shown in Figure 1.

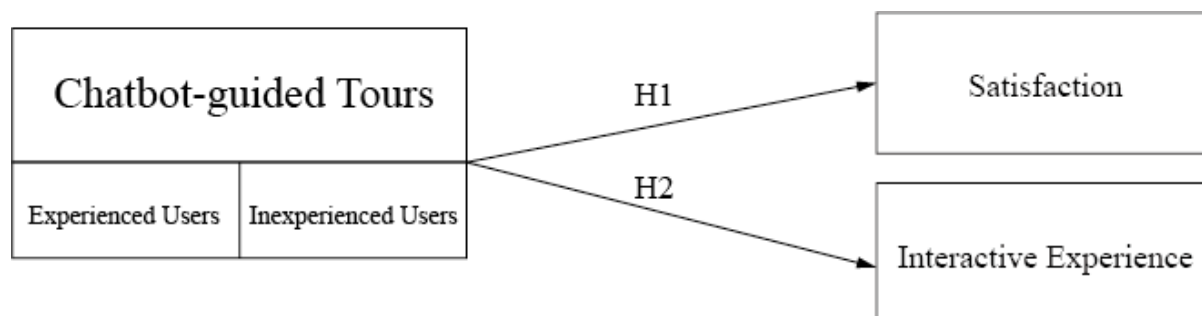


Figure 1: Research Framework

The average age of the visitors was 37 years, with 66.2% being female and 53.3% having a college degree. 97.2% of the visitors had used Facebook Messenger, and 64.1% had used similar chatbots before. The questionnaire included questions on demographic characteristics, social media experience, and chatbot experience. The remaining items used a five-point Likert scale (1-strongly disagree to 5-strongly agree) with a total of 12 questions, including positive and negative items to assess visitors' perceptions of the chatbot. The questionnaire is shown in Table 1.

Table 1: Questionnaire Items

No.	Questionnaire Items
1	I found this guide chatbot helped me understand the tour content more effectively.
2	I encountered many confusing operations while using the guide chatbot.
3	The process of using the guide chatbot was very smooth.
4	I didn't know how to use the guide chatbot and had to try and error.
5	This guide system assisted me in understanding the tour content smoothly.
6	I hope the guide chatbot provides me with more exhibition information.
7	I do not need the guide chatbot to provide additional information.
8	This guide chatbot did not meet my needs for understanding the exhibition content.
9	I am satisfied with the service of this guide chatbot.
10	If I had the choice, I would prefer to explore the exhibition by myself rather than using the guide chatbot.
11	Compared to exploring the exhibition by myself, I would prefer to use the guide chatbot to help me understand the content and plan my visit.
12	Using this guide chatbot was a frustrating experience.

The script design of the YunTech USR chatbot references design features from literature cases. Using Facebook Messenger as the platform, the chatbot was built with carefully

planned scripts to guide visitors along predetermined tour routes, introducing the achievements of YunTech USR. Two tour routes were established, ensuring that visitors could find the exhibition exit. Visitors answered questions via multiple-choice or searched for answers within the exhibition, experiencing a treasure hunt concept and ultimately completing the mission.

The script outline is divided into two stages: the first stage includes welcome content, and the second stage introduces the YunTech campus, providing campus photos and relevant website links. The chatbot guides visitors into the campus, allowing them to choose between static or dynamic exhibition routes, and presents riddles during the tour. After completing the puzzle-solving tasks, visitors find the exhibition exit path, receive virtual badges, and redeem rewards. The script was planned using XMind mind mapping software, which can quickly link contextual information and clearly guide the tour routes.

4. Analysis and Discussion

Factor analysis revealed that satisfaction and interactive experience are the two main factors in evaluating the effectiveness of chatbots. T-test data showed no significant difference in interactive experience and satisfaction between visitors with and without chatbot experience, indicating that the Facebook Messenger chatbot provides stable and balanced service, is friendly to beginners, and is easy to use.

Most visitors (83%) found that the guide chatbot effectively helped them understand the exhibition content, with only 7.3% dissatisfied. This indicates that the system is efficient in information delivery and auxiliary understanding and is reliable in most cases. 9.4% of visitors were neutral, suggesting further research is needed to understand their needs and expectations to improve satisfaction. Overall, the guide chatbot received recognition from the vast majority of visitors, showing that its design and functionality are practical and effective in real applications.

Most visitors (79.6%) found the operation smooth, but 14.8% were neutral, and 5.4% found the operation not smooth, indicating potential design or technical deficiencies in certain aspects. 84.3% of visitors believed the chatbot helped them understand the tour content smoothly, 12.8% were neutral, and 2.6% were dissatisfied. This shows that the system works well in most cases but still needs optimization to address the needs and issues of a minority of users.

Most visitors (83%) were satisfied with the service of the guide chatbot, with only 3.3% dissatisfied. 72.2% of visitors were willing to use the guide chatbot to help understand the exhibition content and plan their visit, 21.6% were neutral, and 6% were dissatisfied, indicating that the guide chatbot is an effective and popular tool for most visitors.

Visitor preferences for using the guide chatbot were divided, with 31.7% not wanting to use it, 34.4% neutral, and 33.6% liking it. This shows significant differences in visitor needs and preferences for the guide chatbot, suggesting designers should offer flexible choices and personalized services.

29.6% of visitors found many confusing operations with the guide chatbot, 27.7% were neutral, and 42.5% found no confusing operations, indicating divided opinions on operation confusion. However, there is a need to optimize operational elements and interface design.

50.6% of visitors believed there was no confusion during the usage process, 21.6% were neutral, but nearly half of the visitors had doubts about the operation, indicating a need for further optimization of operational procedures and interface design.

60.7% of visitors did not feel frustrated using the guide chatbot, but nearly 40% had doubts or dissatisfaction with the usage experience, indicating a need for further optimization of operational procedures and interface design. 79% of visitors wanted the guide chatbot to provide more exhibition information, 16.8% were neutral, and 4% found the current information sufficient. This shows that most visitors want more information to deepen their understanding and exhibition experience.

33.7% of visitors thought additional information could be added, 19.5% were neutral, and 46.5% thought no more information was needed. This indicates that some visitors want more auxiliary information, but most believe the existing information is sufficient. Designers need to carefully consider adding information to avoid information overload and provide personalized tour path options.

5. Conclusion

Overall, the guide chatbot can enhance interactive experience and satisfaction. The system design is reasonable and easy to use, but operational procedures and interface design need optimization, including enhanced guidance for beginners and real-time help features. In providing more exhibition information, it is essential to balance the amount of information to meet the needs of most visitors. It is recommended to offer personalized options, use AI and machine learning technologies to optimize response accuracy and interactivity, add multimedia content to enhance visual and auditory experiences. For neutral and dissatisfied visitors, further investigation into their needs is necessary for targeted improvements, continuously optimizing system functions and improving service quality to gradually increase overall user satisfaction.

References

- Abokhodair, N., Yoo, D., & McDonald, D. W. (2015, February). Dissecting a social botnet: Growth, content and influence in Twitter. In *Proceedings of the 18th ACM conference on computer supported cooperative work & social computing* (pp. 839-851).
- Al-Amin, M., Ali, M. S., Salam, A., Khan, A., Ali, A., Ullah, A., ... & Chowdhury, S. K. (2024). History of generative Artificial Intelligence (AI) chatbots: past, present, and future development. *arXiv preprint arXiv:2402.05122*.
- Ashfaq, M. W. (2022). Analysis of different trends in chatbot designing and development: A review. *ECS Transactions*, 107(1), 7215.
- Bahja, M., Hammad, R., Hassouna, M. (2019). Talk2Learn: a framework for chatbot learning. In Scheffel, M., Broisin, J., Pammer-Schindler, V., Ioannou, A., & Schneider, J. (Eds.), *EC-TEL 2019. LNCS, vol. 11722* (pp. 582–586). Springer, Cham. https://doi.org/10.1007/978-3-030-29736-7_44
- Bernhaupt, R. (Ed.). (2010). *Evaluating user experience in games: Concepts and methods*. Springer Science & Business Media.
- Boiano, S., Borda, A., Gaia, G., Rossi, S., & Cuomo, P. (2018, July). Chatbots and new audience opportunities for museums and heritage organisations. In *Electronic visualisation and the arts*. BCS Learning & Development.
- Brandtzaeg, P. B., & Følstad, A. (2018). Chatbots: changing user needs and motivations. *interactions*, 25(5), 38-43.
- Casheekar, A., Lahiri, A., Rath, K., Prabhakar, K. S., & Srinivasan, K. (2024). A contemporary review on chatbots, AI-powered virtual conversational agents, ChatGPT: Applications, open challenges and future research directions. *Computer Science Review*, 52, 100632.
- Chaves, A. P., & Gerosa, M. A. (2021). How should my chatbot interact? A survey on social characteristics in human–chatbot interaction design. *International Journal of Human–Computer Interaction*, 37(8), 729-758.
- Clarizia, F., Colace, F., Lombardi, M., Pascale, F., & Santaniello, D. (2018). Chatbot: An education support system for student. In Castiglione, A., & Pop, F. (Eds.), *Cyberspace Safety and Security* (pp. 291–302). Springer International Publishing.
- Engineering. Chatbot, AI and Gamification for the MAXXI Museum in Rome. Available online: <https://www.eng.it/en/casestudies/chatbot-museo-maxxi> (accessed on 6 June 2024).
- Fadhil, A., & Villafiorita, A. (2017). An adaptive learning with gamification & conversational UIs: The rise of CiboPoliBot. In Tkalcic, M., & Thakker, D. (Eds.), *25th Conference on User Modeling, Adaptation and Personalization (UMAP 17), Bratislava, Slovakia, July 2017* (pp. 408–412). Association for Computing Machinery.

- Følstad, A., & Brandtzaeg, P. B. (2020). Users' experiences with chatbots: findings from a questionnaire study. *Quality and User Experience*, 5(1), 3.
- Følstad, A., & Taylor, C. (2021). Investigating the user experience of customer service chatbot interaction: a framework for qualitative analysis of chatbot dialogues. *Quality and User Experience*, 6(1), 1-17.
- Haugeland, I. K. F., Følstad, A., Taylor, C., & Bjørkli, C. A. (2022). Understanding the user experience of customer service chatbots: An experimental study of chatbot interaction design. *International Journal of Human-Computer Studies*, 161, 102788. <https://www.sciencedirect.com/science/article/pii/S0747563215001247>
- ISO. (2019). ISO 9241-210:2019 (E). Ergonomics of human system interaction-Part 210: human-centred design for interactive systems. International Organization for Standardization (ISO). Retrieved from: <https://www.iso.org/obp/ui/#iso:std:iso:9241:-210:ed-2:v1>
- Jain, M., Kumar, P., Kota, R., & Patel, S. N. (2018, June). Evaluating and informing the design of chatbots. In *Proceedings of the 2018 designing interactive systems conference* (pp. 895-906).
- Kepuska, V., & Bohouta, G. (2018, January). Next-generation of virtual personal assistants (Microsoft Cortana, Apple Siri, Amazon Alexa and Google Home). In *2018 IEEE 8th annual computing and communication workshop and conference (CCWC)* (pp. 99-103). IEEE.
- Khawan, S. (2021). Using the technology in museums environments. Available at SSRN 3782237.
- Lessio, N., & Morris, A. (2020, October). Toward design archetypes for conversational agent personality. In *2020 IEEE International Conference on Systems, Man, and Cybernetics (SMC)* (pp. 3221-3228). IEEE.
- Moore, R. J., & Arar, R. (2019). *Conversational UX design: A practitioner's guide to the natural conversation framework*. New York, NY: Association for Computing Machinery.
- Nimavat, K., & Champaneria, T. (2017). Chatbots: An overview types, architecture, tools and future possibilities. *IJSRD-International Journal for Scientific Research and Development*.
- Noh, Y. G., & Hong, J. H. (2021). Designing reenacted chatbots to enhance museum experience. *Applied Sciences*, 11(16), 7420.
- Ruan, S., Jiang, L., Xu, J., Tham, B.J.K., Qiu, Z., Zhu, Y., Murnane, E.L., Brunskill, E., & Landay, J.A. (2019). QuizBot: A dialogue-based adaptive learning system for factual knowledge. In *Proceeding of the CHI Conference on Human Factors in Computing Systems (CHI 2019), Glasgow, Scotland, 4-9 May 2019* (p. 357).

- Schaffer, S., Gustke, O., Oldemeier, J., & Reithinger, N. (2018, September). Towards chatbots in the museum. In *mobileCH@ Mobile HCI*.
- Sernani, P., Vagni, S., Falcionelli, N., Mekuria, D. N., Tomassini, S., & Dragoni, A. F. (2020, September). Voice interaction with artworks via indoor localization: A vocal museum. In *International Conference on Augmented Reality, Virtual Reality and Computer Graphics* (pp. 66-78). Springer, Cham.
- Shawcroft, J. E., Gale, M., Workman, K., Leiter, V., Jorgensen-Wells, M., & Jensen, A. C. (2022). Screen-play: An observational study of the effect of screen media on Children's play in a museum setting. *Computers in Human Behavior*, 132, 107254.
- Sheng, C. W., & Chen, M. C. (2012). A study of experience expectations of museum visitors. *Tourism Management*, 33(1), 53-60.
- Tzouganatou, A. (2018). Can heritage bots thrive? Toward future engagement in cultural heritage. *Advances in Archaeological Practice*, 6(4), 377-383.
- Varitimiadis, S., Kotis, K., Pittou, D., & Konstantakis, G. (2021). Graph-Based Conversational AI: Towards a Distributed and Collaborative Multi-Chatbot Approach for Museums. *Applied Sciences*, 11(19), 9160.
- Varitimiadis, S., Kotis, K., Skamagis, A., Tzortzakakis, A., Tsekouras, G., & Spiliotopoulos, D. (2020). Towards implementing an AI chatbot platform for museums. In *International Conference on Cultural Informatics, Communication & Media Studies* (Vol. 1, No. 1).
- Woolley, S. C. (2016). Automating power: Social bot interference in global politics. *First Monday*.

Utilizing Storytelling Activities to Enhance Communication Skills and Creativity Thinking of Primary School Teacher Students

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Abstract

This study investigates the effectiveness of storytelling as a communication technique in the learning management process for primary school teacher students. It emphasizes the importance of storytelling in facilitating knowledge exchange, fostering shared understanding, and improving communication between teachers and students. The study aimed to develop and implement storytelling activities based on diverse elements like experiences, drawings, stories, and local wisdom. These activities were created through workshops that addressed effective storytelling strategies and story planning. The research used a workshop technique with a representative group of primary school teacher students. The workshops covered story planning, presentation design, and communication skills for effective storytelling. The results showed that the participants' comprehension of storytelling as a teaching tool had significantly improved. The primary school teacher students showed improved skills in creating captivating presentations and telling tales in a way that held the attention of the audience. Furthermore, the activities helped them gain confidence in delivering knowledge in an entertaining and compelling way. This study highlights the value of using storytelling exercises to give aspiring elementary school teachers the fundamental pedagogical and communication skills they need. The participants acquired useful information and useful skills to use storytelling as an effective teaching technique and to create engaging learning environments in their classrooms.

Keyword: Storytelling Activities, Communication Skills, Creativity Thinking

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1. Introduction

1.1 Why Good Communication Skills and Creative Thinking Important for Teacher in Classroom?

1.1.1 Communication Skills

Communication skills involve the methods used in conveying, receiving and processing information through verbal and non-verbal means. It includes speaking and listening effectively, interpreting gestures, body language, and emotions and being able to use the right communication on the right occasion. Communication skills broadly refer to a person's ability to establish rapport, work in teams, negotiate, quit and effectively deliver messages. (cite in <https://www.theknowledgeacademy.com/blog/communication-skills/>) Effective communication skills are crucial for individuals in all professions, and teaching is no exception. Teachers must communicate effectively with their students, colleagues, and parents to ensure everyone is on the same page and that learning can occur smoothly (cite in <https://lrnkey.com/blog/why-good-communication-skills-important-for-teachers>).

Communication is the most important aspect of classroom management. It is essential to have clear and consistent lines of communication with our administration, colleagues, students and parents. Without it we will lose the respect of peers, the attention of students, and the cooperation of parents (Hans, E., & Rayat-Bahra, 2017). Improving communication skills in teachers is important that can assist students to enhance learning for a variety of reasons such as:

- Teachers with strong communication skills can manage classrooms more efficiently. They can convey instructions clearly, establish expectations, and foster a positive learning environment. Effective communication helps in addressing students' queries and concerns promptly, reducing misunderstandings and disruptions.
- Good communicators can engage students more effectively by making lessons interactive and interesting. They can adapt their communication style to suit different learners, thereby improving student participation and retention of information.
- Communication skills are essential for building strong relationships with parents. Teachers need to convey students' progress, discuss concerns, and collaborate with parents to support students' education. Clear and empathetic communication fosters trust and cooperation.
- Strong communication skills are critical for teachers' professional growth. They enable teachers to share their ideas, collaborate with colleagues, and contribute to the academic community. This can lead to better career opportunities and professional recognition.

Therefore, supporting communication skills in teachers is paramount for fostering an effective educational environment. Effective communication is the cornerstone of successful teaching, as it directly influences classroom management, student engagement, parent-teacher relationships, and professional development. Teachers who communicate well can create a positive and inclusive classroom atmosphere, address students' needs more efficiently, and build strong, collaborative relationships with parents. Furthermore, these skills enable teachers to articulate their ideas and strategies, contributing to their professional growth and the advancement of educational practices.

1.1.2 Creative Thinking

Creativity refers to the ability to produce new products or ideas that are novel and useful. Whether addressing problems, creating works of art, developing innovations, or offering a unique perspective, creativity often involves thinking outside the box. Seeing connections between seemingly unconnected objects and bringing knowledge and experiences together perfectly (Runco, M. A., & Jaeger, G. J., 2012). In the future, we will not compete for knowledge but they will have to compete with innovation, inventiveness, and never-ending learning. Classrooms and teachers are another key beginning point in education that will ensure that children start well, run swiftly, and cross the finish line successfully. Teachers may need to take a break from reading textbooks and writing on the board in front of the class. Turn on your creativity and create learning activities for children to have fun and can reach full potential on your own. Nicola Whitton (cite in <https://thepotential.org/knowledge/creativity-and-innovation/>) claimed in her paper titled 'To Improve Education, We Need to Incorporate Imagination' that there are variables that help students learn and having creative thinking skills mean teachers must make learning the topic enjoyable, create opportunity for students to engage in group activities and have fun while learning. Therefore, teachers must be creative thinkers, don't become stuck in the past, always seek to expand knowledge or discover new approaches that can be utilized to enhance classroom learning. Why is learning with creative thinking just as important as having knowledge? Why must both teachers and learners use creative thinking in learning? Creativity thinking is important for teaching with teachers in the classroom for several reasons such as (Robinson, K., 2001., Craft, A., 2005., Sawyer, R. K., 2006., Beghetto, R. A., & Kaufman, J. C., 2010):

- Creative thinking allows teachers to develop innovative teaching strategies that cater to diverse learning styles. By thinking outside the box, teachers can create engaging and effective lesson plans that make learning more enjoyable and impactful for students.
- Creative thinking equips teachers with the skills to address various challenges in the classroom. They can devise unique solutions to problems such as student disengagement, behavioral issues, and resource limitations, enhancing the overall learning experience.
- Creative thinking helps teachers to remain flexible and open to new ideas and approaches. This is especially important with the integration of technology and changing educational standards.
- Teachers who demonstrate creative thinking can inspire their students to think creatively as well. This can lead to a more dynamic and stimulating classroom environment where students feel encouraged to explore their ideas and think critically.

In conclusion, creative thinking is essential for supporting teachers in their teaching endeavors due to several key reasons. First, it enhances student engagement and motivation by making lessons more interesting and interactive. Second, it fosters the development of critical problem-solving skills, encouraging students to think innovatively and analytically. Third, creative thinking allows teachers to be adaptable and flexible, tailoring their methods to meet the diverse needs and learning styles of their students. Additionally, it promotes a positive and stimulating learning environment, where students feel valued and confident in expressing their ideas. Moreover, integrating creativity into teaching facilitates interdisciplinary learning, helping students connect concepts across different subjects. Lastly, it cultivates a lifelong love of learning, inspiring students to continually seek knowledge and develop new skills. Therefore, cultivating creative thinking in teaching is crucial for

enhancing the overall effectiveness and enjoyment of the educational experience for both teachers and students.

1.2 How Can Storytelling Activities Enhance Teacher Students in Communication Skills and Creative Thinking?

A basic human activity, telling stories is an art form that crosses historical and cultural boundaries. It is an age-old custom that has been utilized to educate people, uphold customs, and amuse crowds. Storytelling is still a significant tool today, not just for maintaining cultural legacy but also for improving critical communication and creative thinking skills.

Storytelling is the art of conveying narratives through words, visuals, or experiences to engage, inform, or entertain an audience. It is a powerful and timeless practice that captures human emotions, experiences, and ideas. Thus, it enables us to connect with others, convey messages effectively, and inspire action. Whether through spoken words, written stories, visual presentations, or immersive experiences, Storytelling plays a pivotal role in human communication and expression. (cite in <https://www.theknowledgeacademy.com/blog/what-is-storytelling/>) Storytelling activities are activities that use stories to create interesting and effective learning experiences. It is usually presented in the atmosphere of a classroom or study group. This activity has a variety of characteristics and can be improved according to the objectives and goals that require learners to have an experience that matches their learning.

In the field of education, storytelling has been offered as an effective teaching tool. This was especially true during the 21st century when educational theories were developed using about storytelling to develop students in learning, communication skills and creative thinking in the classroom. Educators such as Kieran Egan (1986), Jerome Bruner (1990), Haven, K. (2007), Miller, S. (2010) believe that storytelling is an excellent technique to make instructional content more engaging and fascinating for students and using storytelling activities in the teaching process is important in developing teachers' communication and creativity skills, such as:

- Storytelling helps teachers develop communication skills in speaking clearly using language that is easy to understand and displaying appropriate emotions.
- Storytelling helps teachers attract students' attention, making teaching more exciting and memorable.
- Storytelling activities encourage teachers to practice listening skills and respond appropriately to student comments and questions.
- Storytelling encourages teachers to think outside the box and create new, interesting and meaningful stories.
- Storytelling fosters positive relationships between teachers and students by exchanging experiences and ideas through stories, which make students feel relaxed and open to learning.
- Complex and multifaceted storytelling allows students and teachers to practice analytical and critical thinking, while discussing stories fosters the development of skills in criticizing and critically evaluating material.

In conclusion, good storytelling significantly enhances communication skills and creative thinking in teachers. Through storytelling, teachers improve their ability to communicate clearly and effectively, engaging students and making lessons more memorable. The creative process involved in crafting stories encourages teachers to think imaginatively and develop

innovative teaching strategies. Storytelling also fosters emotional connections, simplifies complex concepts, promotes critical thinking, and enhances listening skills. Moreover, it builds confidence in teachers, empowering them to create dynamic and interactive classroom environments. Overall, storytelling is a powerful tool that enriches the educational experience for both teachers and students, making learning more engaging, relatable, and effective.

1.3 Statement of the Problem

While storytelling has been recognized as an effective pedagogical tool to enhance communication skills and creative thinking, its integration into teacher education programs faces several challenges. Despite its potential benefits, there is a lack of structured training and resources for teacher students to effectively utilize storytelling in their future classrooms. Additionally, many teacher education curricula do not prioritize or adequately emphasize the development of storytelling skills, leading to a gap in the practical application of this method. The researcher noticed throughout the years of teaching experience in teacher students at Education Faculty UdonThani Rajabhat University, Thailand, that when 1st year or new comer of teacher students that they change level education from secondary education to bachelor's degree come out and present in front of the classroom, usually the response is:

“I feel afraid to speak in front of the class.”

“I'm not sure if I've presented it appropriately.”

“I'm scared I am not like my fellow classmates.”

“I'm afraid of receiving debilitating advice.”

“I'm not sure whether my friend will understand what I'm saying or not.”

“I can't figure out how to design a presentation.”

“I'm not sure whether I can tell my pals the story I'm trying to understand.”

Based on the statements of the teacher students, it may be specific problems that teacher students may lack the confidence and skills necessary to create and deliver compelling stories, which is crucial for engaging students and enhancing learning, the existing curricula may not sufficiently highlight the importance of storytelling in teaching, resulting in inadequate exposure and practice for teacher students, teacher education programs often do not provide systematic training on how to incorporate storytelling into teaching practices, leaving teacher students unprepared to use this method effectively and Limited access to resources and examples of effective storytelling in educational contexts can hinder teacher students' ability to learn and apply this technique. Addressing these problems is crucial for maximizing the benefits of storytelling in enhancing communication skills and creative thinking among teacher students. By providing structured training, emphasizing storytelling in the curriculum, and developing robust assessment methods, teacher education programs can better prepare future teachers to use storytelling as a powerful educational tool. In response to this problem, the goals of this study were to answer the following questions: *“What effect does storytelling have on the development of communication skills and creative thinking competency among primary school teacher students at UdonThani Rajabhat University's faculty of education?”*

2. Purposes of the Study

The study attempted to:

1. To study and compare communication skills before and after learning of primary school teacher students by using storytelling activities
2. To study and compare creative thinking before and after learning of primary school teacher students by using storytelling activities

3. Research Questions

This study sought to find answers to the following questions:

- What effect does storytelling have on the development of communication skills and creative thinking competency among primary school teacher students at UdonThani Rajabhat University's faculty of education?

4. Research Hypothesis

Based on the research questions, the following hypothesis was formulated:

- There are statistically significant differences between the pretest and posttest in terms of developing their communication skills and creative thinking proficiency after applying storytelling activities in favor the posttest higher than pretest.

5. Significance of the Study

The significance of the study attempted to:

1. Investigate the effectiveness of using storytelling activities in enhancing communication skills and creative thinking of primary school teacher students at UdonThani Rajabhat University's faculty of education.
2. Provide a new perspective for 1st year or newcomer of teacher students that they change level education from secondary education to bachelor's degree through the use to storytelling activities in developing communication skills and creative thinking to build confidence in public speaking and presentation. This is a valuable skill for teachers who need to present information confidently and clearly to their students.
3. Direct the attention of instructors lecture and educators to the importance of adopting a new strategy in this case "storytelling activities" that has proven to be effective in developing communication skills and creative thinking of teacher students as mentioned in earlier.

6. Delimitations of the Study

The study was delimited to:

1. The population of the study that consisted of a sample of 1st year primary school teacher students at UdonThani Rajabhat University in Faculty of Education, Thailand.
2. Research design used is one group pretest and posttest design.
3. Conduct research in the 2nd academic semester of 2023.
4. Using storytelling activities as an instructional strategy in Bachelor of Education Program in Elementary Education.
5. Developing communication skills and creative thinking proficiency of classroom learning management activities for developing language skills and communication.

6. Communication skills is the ability oral communication skills in front of the classroom of primary school teacher students that assessment related to preparation, clarity, voice and body language, engagement with audience, and interest and persuasiveness.
7. Creative thinking is the ability creative presentation use a variety of techniques, including storytelling, visual aids, interactive elements, and innovative technologies, to capture the audience's attention and leave a lasting impression that assessment related to creativity and Innovation, structure and organization, use of media and technology, communication and presentation, and audience engagement.

7. Research Methodology

7.1 Population and Sample Selection

The population for this study is first-year primary school teacher students from the Faculty of Education at Udon Thani Rajabhat University, Thailand in Semester 2, academic year 2023, with one classroom and 30 students. The sample group used in this research, it is a population group of 15 students, obtained from simple random sampling.

7.2 Research Design

This research is designed to the investigation into 2 phases:

Phase 1: Developing and finding the Quality of Instruments of Research

1.1) Create experimental instruments the storytelling activities, there are four storytelling activities, 1) Tell stories based on experiences, 2) Tell stories based on drawing, 3) Tell stories based on fairy tale, 4) Tell stories based on local wisdom. The storytelling activity will be through learning by the experiential learning cycle as focus on four steps 1) Creating a storytelling experience, 2) Reflect storytelling approaches, 3) Identify issues and develop concepts, and 4) Use knowledge to create new stories. Storytelling through experiential learning cycle passed 3 experts in learning management and language communication conducted a quality inspection, evaluating the appropriateness of organizing learning activities, timing, measurement and evaluation and media used in learning management. Overall, storytelling activities through experiential activities were of high quality. The activities were tested with primary school teacher students who were not in the sample to determine their appropriateness, timing, and measurement and assess the suitability of the media, concluding that the activities were appropriate for organizing learning activities. Students enjoy and want to learn in activities like this again.

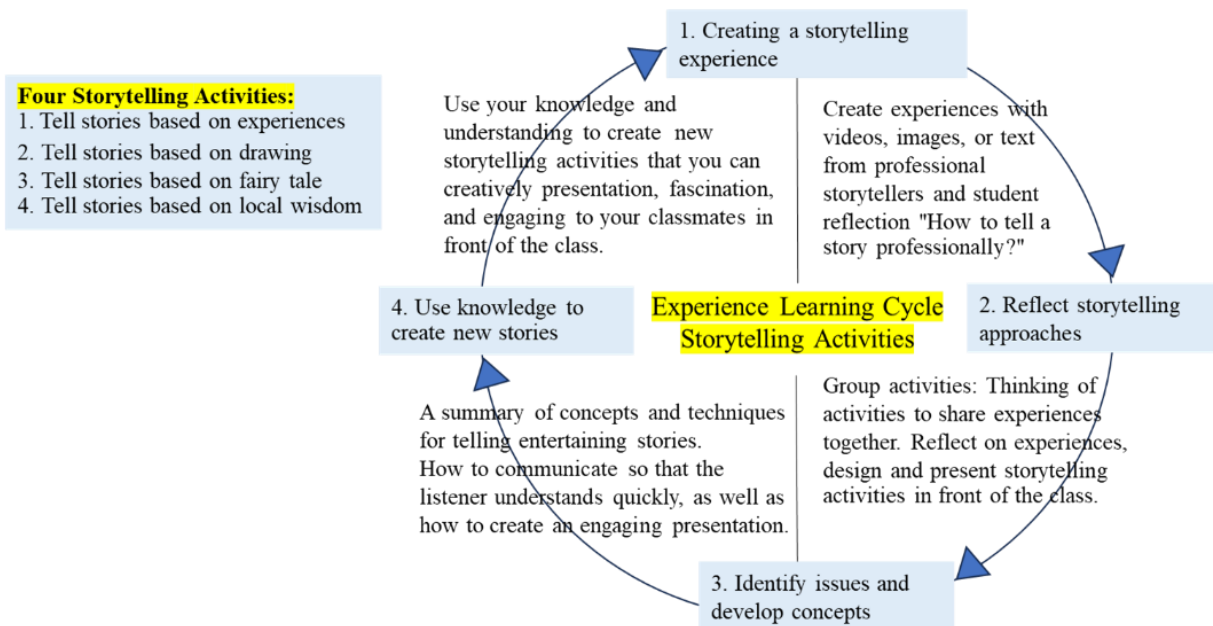


Fig.1 Conceptual framework storytelling activities through experiential learning cycle

1.2) Create evaluation instrument communication skills and creative thinking by the testing was conducted by telling stories based on random words such as food, mountains, sea, temple, waterfall, and others in 10 minutes for presentation. There are 2 types of evaluation instruments 1) communication skills assessment related to preparation, clarity, voice and body language, engagement with audience, interest and persuasiveness, and 2) creative thinking assessment related to creativity and innovation, structure and organization, use of media and technology, communication and presentation, audience engagement. The scoring is an estimation of rubric score. The quality of the evaluation instruments was determined by experts who were also responsible for reviewing the experimental instruments. Consider content validity when the index of consistency (IOC) score is 0.67 or higher. According to the test evaluation results, the test's IOC value was between 0.67 to 1.

Phase 2: Experiment Teaching Storytelling Activities to a Sample of Students

The researcher conducted the experiment teaching storytelling activities to a sample group of students and collected data. Follow the steps outlined on table 1 as below:

Table 1: Experiment teaching storytelling activities to a sample of students

Before	Experimental	After
The sample group applied scale pretest of 1) communication skills and 2) creative thinking in the testing was conducted by telling stories based on random words such as food, mountains, sea, temple, waterfall, and others in 10 minutes for presentation.	The teacher was informed about the purpose of the study, using instruction based on four storytelling activities in classroom research, and during the process teacher was observed, the interaction between teacher-students and students-students.	Applied scale of posttest of 1) communication skills and 2) creative thinking in the testing was conducted by telling stories based on random words such as food, mountains, sea, temple, waterfall, and others in 10 minutes for presentation that test same pretest.

The study instruments 6 weeks, 4 weeks for the instruction workshop, 2 weeks for the application of the pretest and the posttest.

7.3 Research Variables

The study included three variables:

1. The Independent Variable is: The storytelling activities.
2. The Dependent Variable 1 is: Communication skills.
3. The Dependent Variable 2 is: Creative thinking.

7.4 Data Analysis

Mean (\bar{X}), percentage (%), and standard deviations (S.D.) of measured quantities were determine and t-test for dependent samples done for hypothesis testing.

8. Findings

1 Communication Skills: The comparison between pretest-posttest of communication skills of primary school teacher students by using storytelling activities this can be summarized in table 2 as below.

Table 2: Data analysis results of communication skills.

N	Test	Mean Score	S.D.	%	t-test	p
15	Pretest	9.47	1.060	37.87	14.099**	.000
	Posttest	19.93	2.282	79.73		

Note.**p<.01

According to table 2, the mean communication skills pretest score obtained by primary school teacher students was 9.47 (37.87%). After learning, their mean posttest score is 19.93 (79.73%). This is a comparison to determine how there is improvement from pretest to posttest; the results reveal that the posttest mean score was higher than the pretest.

2 Creative Thinking: The comparison between pretest-posttest of creative thinking of primary school teacher students by using storytelling activities this can be summarized in table 3 as below.

Table 3: Data analysis results of creative thinking.

N	Test	Mean Score	S.D.	%	t-test	p
15	Pretest	10.73	1.050	42.93	17.238**	.000
	Posttest	19.40	1.502	77.60		

Note.**p<.01

According to table 3, the mean creative thinking pretest score obtained by primary school teacher students was 10.73 (42.93%). After learning, their mean posttest score is 19.40 (77.60%). This is a comparison to determine how there is improvement from pretest to posttest; the results reveal that the posttest mean score was higher than the pretest.

9. Results Discussions

Enhance communication skills and creativity thinking among primary school teacher students through storytelling activities, it was found that primary school teacher students have improved their communication skills and creative thinking after studying than before in significant at the .01 level, this may be due to:

- In this activity encourages on students' learning and reflecting on the learning outcomes of the activity.
- For example: Students find inspiration by watching VDO of storytellers, then they reflect "How to Tell a Story like a Storyteller."
- The process of working in groups is emphasized to allow students to think together, confident in working and thinking creatively to communicate stories that are new and unique in their own ways.
- Focus on asking questions that allow students to describe the concept of being a good storyteller in their own particular way.
- The emphasis is on practicing storytelling and accepting feedback for improving storytelling.

This is compatible with Bandura's (1977) social learning theory, which states that social learning occurs through observational or modeling, listening and simulating behavior from models such as seen on TV, movies, animations, spoken words or written information as a result, storytelling enhance learning through communication with each other. In the storytelling activity, it is language teaching that emphasizes communication through linking knowledge, skills, and ability to communicate in language to be able to use the language fluently and be accurate in using language at the same time. This type of learning management focuses on developing students' listening and speaking skills with students at the center of learning through a fun atmosphere, this is compatible with theory communicative language teaching Richards, J. C., & Rodgers, T. S. (1986), which is a theory that has been developed in foreign language learning and teaching in the 1960s - 2020s and is still widely used to until now. Storytelling activities also emphasize knowledge creation through experience and interaction. Therefore, storytelling helps create new knowledge and enhance creativity. which is consistent with theory constructivist learning theory of Jean Piaget and Lev Vygotsky Piaget, J. (1972).

For example, classroom reflections students' opinions on learning with storytelling activities are as follow:

"I'm developing confidence in standing up and delivering stories in front of the class."

"I realize now that I need to thoroughly understand what story that I intend to tell before telling it."

"I must tell the story with my feelings inside, the face has to correspond to the story, and always to keep consideration that the listener will like what we're saying."

"I know I'll need to practice it frequently, and don't be afraid to seek assistance; it will help me become a better storyteller."

According to all of this, it is reasonable to suppose that storytelling activities require clear speaking abilities and careful listening. Students who are given the opportunity to tell stories

will practice using language, organized thoughts and successful communication. At the same time, the listener must practice listening carefully in order to understand the content and feelings of the storyteller. Storytelling also gives students the opportunity to use a variety of vocabulary and expressions that improves language skills. The content creation and storytelling activities help students practice expressing their emotions through the use of voice, facial expressions, and body language, which affects the development of complete communication skills. Moreover, storytelling requires the creation content and stories that students will practice their imagination in creating interesting and meaningful stories that are develops creative thinking skills. In the storytelling activities, students must create ways to present stories in an organized and interesting way, as well as practice problem solving and analytical thinking. Storytelling requires the application of previous knowledge for creating new content, which helps students build skills in connecting knowledge from various sources. As a result, incorporating storytelling activities into the teaching and learning process improves students' communication and creativity significantly. Storytelling not only helps students improve communication and creativity skills, but it also fosters self-esteem and teamwork in group projects.

10. Conclusion and Recommendations

1. As a result, Storytelling makes presentations more structured, emotionally engaging, visually appealing, and remembered. By incorporating storytelling strategies, presenters can create a more exciting and impactful experience for their audience, increasing both creativity and communication efficacy.
2. Storytelling should be practiced on a regular basis so that students can continuously improve their skills. Teachers should provide advice and foster an environment suitable to storytelling, application in real life, storytelling talents can be used in a variety of settings so that students can apply it in real world.
3. Furthermore, storytelling activities also include communication skills that are listening skills, writing skills, confidence in public speaking, and training in telling stories through video, YouTube, Tik Tok, or other social media platforms to communicate stories, It will allow students to gain storytelling techniques and be able to use them in classroom learning activities as a teacher.
4. Storytelling activities, when integrated into classroom instruction, will assist students gain knowledge and understanding of the material more quickly. As a result, these dependent variables should not be disregarded in further study.

In summary, using storytelling activities is an effective way to develop students' communication and creativity skills. However, proper application and support from teachers will help to make the results more effective.

References

- Bandura, A. (1977). *Social learning theory*. Prentice Hall.
- Beghetto, R. A., & Kaufman, J. C. (2010). *Nurturing creativity in the classroom*. Cambridge: Cambridge University Press.
- Bruner, J. (1990). *Acts of meaning*. Harvard University Press.
- Craft, A. (2005). *Creativity in schools: Tensions and dilemmas*. London: Routledge.
- Egan, K. (1986). *Teaching as storytelling: An alternative approach to teaching and curriculum in the elementary school*. University of Chicago Press.
- Hans, E., & Rayat-Bahra. (2017). Classroom management is prerequisite for effective teaching. *International Journal of English and Education*, 6(2), 273-283.
- Haven, K. (2007). *Story proof: The science behind the startling power of story*. Libraries Unlimited.
- Heath, C., & Heath, D. (2007). *Made to stick: Why some ideas survive and others die*. Random House.
- Lrnkey. (2022, February 8). Why good communication skills are important for teachers. *Lrnkey*. Retrieved from <https://lrnkey.com/blog/why-good-communication-skills-important-for-teachers>
- Miller, S. (2010). The power of storytelling. *Educational Leadership*. Association for Supervision and Curriculum Development.
- Osborn, A. F. (1963). *Applied imagination: Principles and procedures of creative problem-solving*. Scribner.
- Piaget, J. (1972). *The psychology of the child*. Basic Books.
- Richards, J. C., & Rodgers, T. S. (1986). *Approaches and methods in language teaching*. Cambridge University Press.
- Robinson, K. (2001). *Out of our minds: Learning to be creative*. Chichester: Capstone Publishing.
- Runco, M. A., & Jaeger, G. J. (2012). The Standard Definition of Creativity. *Creativity Research Journal*, 24(1), 92-96.
- Sawyer, R. K. (2006). *Explaining creativity: The science of human innovation*. Oxford: Oxford University Press.
- Taylor, E. (2023, July 6). What are communication skills? A comprehensive guide. *The Knowledge Academy*. Retrieved from <https://www.theknowledgeacademy.com/blog/communication-skills/>

Thammawongsa, B. (2018, November 28). 3 classrooms to practice creativity that teachers don't have to read textbooks and write on the board in front of the room. *The Potential*. Retrieved from <https://thepotential.org/knowledge/creativity-and-innovation/>

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

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***Enhancing Science Teacher Students' Communication Skills:
The Effect of Model-Based Learning***

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Abstracts

Effective scientific communication plays an important role in capturing public attention and promoting scientific knowledge. Preparing future science teachers with these qualities is critical for fostering scientific understanding in their students. The purpose of this study is to study the effects of using models as a basis for organizing learning on the science communication skills of science teacher students. In this study, student science teachers participate in Model-Based Learning exercises meant to improve their communication abilities in a range of circumstances, such as communicating science concepts to varied audiences. Students' communication skills during class are evaluated. The study's findings revealed that science teacher students who used Model-Based Learning as a basis performed well in science communication. According to the findings of the scientific communication behavior observation, science teacher students demonstrate a wide range of clear, accurate, and engaging scientific communication behaviors.

Keywords: Model-Based Learning, Communication Skills, Scientific Communication

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Introduction

Scientific Communication

Effective science communication skills are essential for science teachers, as they play an important role in the teaching and inspiration of future generations. Science teachers are more than just information providers; they are interpreters and translators of difficult scientific concepts, making them accessible and exciting to pupils. The capacity to effectively communicate science improves student knowledge, encourages curiosity, and promotes scientific literacy, all of which are crucial in an increasingly technologically driven world. Strong science communication skills enable teachers to present information clearly, address misconceptions, and relate scientific concepts to everyday life, making learning more relevant and impactful. Moreover, these skills help in creating an interactive and dynamic classroom environment where students feel encouraged to ask questions, participate in discussions, and engage in critical thinking. Research underscores the importance of these skills in educational settings. According to a study by McDermott et al. (2018), teachers who employ effective science communication techniques can significantly improve students' comprehension and retention of scientific concepts. This study highlights that teachers who are adept at explaining concepts, utilizing analogies, and engaging students through interactive methods tend to achieve better educational outcomes. Additionally, these skills are crucial in fostering a positive attitude towards science, which can lead to increased interest and pursuit of science-related careers (McDermott et al., 2018). To summarize, scientific teachers' communication skills are critical not only for effective instruction, but also for inspiring the next generation of scientists, engineers, and educated citizens. By mastering science communication, teachers may bridge the gap between difficult scientific information and student comprehension, playing an important role in building a scientifically literate society.

Model-Based Learning

Model-based learning has emerged as a powerful instructional strategy that enhances scientific communication skills among science teachers. This pedagogical approach involves the use of models to represent, explain, and predict scientific phenomena, thereby facilitating deeper understanding and more effective communication of complex concepts. Model-based learning encourages active engagement, critical thinking, and the ability to convey scientific ideas clearly and accurately, which are essential skills for science teachers. The effectiveness of model-based learning in enhancing scientific communication skills lies in its emphasis on constructing, using, and refining models. By engaging in these activities, teachers develop a more profound understanding of scientific concepts and improve their ability to articulate these ideas to students. The iterative process of model development and evaluation helps teachers identify and address misconceptions, communicate abstract concepts more concretely, and foster a more interactive and dynamic classroom environment. The effectiveness of model-based learning in enhancing scientific communication skills lies in its emphasis on constructing, using, and refining models. By engaging in these activities, teachers develop a more profound understanding of scientific concepts and improve their ability to articulate these ideas to students. The iterative process of model development and evaluation helps teachers identify and address misconceptions, communicate abstract concepts more concretely, and foster a more interactive and dynamic classroom environment. According to research, model-based learning considerably improves the communication skills of scientific teachers. Windschitl et al. (2008) discovered that teachers who incorporate

model-based learning into their teaching techniques have better ability to explain complicated scientific facts, engage students in meaningful conversations, and use models for communication and education. According to this study, model-based learning not only helps with content delivery but also helps teachers develop abilities that help students learn and engage (Windschitl et al., 2008). Furthermore, model-based learning promotes a collaborative learning environment where teachers and students co-construct knowledge. This collaborative aspect is critical for developing communication skills, as it requires teachers to listen actively, ask probing questions, and provide clear explanations. Through these interactions, teachers refine their ability to communicate scientific ideas effectively, making them better equipped to inspire and educate their students. In summary, model-based learning is a valuable approach that enhances scientific communication skills in science teachers. By engaging in the creation and use of models, teachers develop a deeper understanding of scientific concepts and improve their ability to communicate these ideas effectively. This not only enhances the quality of science education but also fosters a more scientifically literate society.

Enhancing Science Teacher Students' Communication Skills: The Effect of Model-Based Learning

The skills to communicate scientific concepts effectively are a critical skill for science teacher students, as it directly impacts their future effectiveness as educators. However, traditional instructional methods often fall short in equipping these students with the necessary communication skills to translate complex scientific ideas into understandable and engaging lessons. This gap in pedagogical training can lead to challenges in student comprehension, engagement, and interest in science subjects. Research indicates that model-based learning offers a promising solution to this problem. By engaging students in the development and use of models to represent scientific phenomena, model-based learning can enhance their understanding and ability to communicate these concepts. Despite the potential benefits, there is a lack of comprehensive studies that specifically examine the impact of model-based learning on the communication skills of science teacher students. The problem, therefore, lies in the insufficient integration of model-based learning in science teacher education programs and the limited empirical evidence supporting its effectiveness in enhancing communication skills. Windschitl et al. (2008) emphasize the need for a shift towards model-based inquiry in science education to improve both content understanding and communication abilities. Addressing this problem is essential to ensure that future science teachers are well-prepared to engage and inspire their students through effective communication. This research aims to fill this gap by investigating the effect of model-based learning on the communication skills of science teacher students. By providing empirical evidence and practical insights, this study seeks to inform curriculum design and teaching practices in science teacher education programs, ultimately enhancing the quality of science education. From observing, the researcher noticed throughout the years of teaching experience in teacher students at Education Faculty UdonThani Rajabhat University, Thailand, that many student science teachers do not comprehend or recognize the value of science communication they believe scientific communication is not difficult. They think "only need to understand the issue and how the content should be communicated". But reality, when science student teachers presented in front of the classroom with the students, it might be difficult to remember to speak swiftly and engagingly. As a result, a question arises for science teacher students: what is science communication and how important is it? Why is it important to practice this skill? Therefore, an attempt has been being made through this study to find the "Enhancing Science Teacher Students' Communication Skills: The Effect of

Model-Based Learning.” The participant of this study were science teacher students' that they are studying in Faculty of Education, Udon Thani Rajabhat University in Thailand. The current study's findings will assist science student teachers in understanding scientific communication abilities and becoming proficient at communicating strongly in front of a class or the general public, as well as developing our teaching abilities to teach well.

Objectives of the Study

The purpose of this study is to study the effects of using models-based learning on the science communication skills of science teacher students. A research question was developed to guide the study “How did the process of models-based learning develop science student teachers understanding science communication skills and can communicate successfully?”

Research Methodology

This research conducting was separated into 2 phases as follows:

Phase 1: Developing and Identifying Educational Quality of Models-Based Learning

1.1 Developing models-based learning to development scientific communication skills by review literature about models-based learning, and scientific communication skills. The detail in 5 steps of model-based learning are as follows.

Step 1: Introduction of Concepts

The teacher teaches the key concepts and principles that will serve as the foundation for the topic being studied. This can be accomplished through lectures, multimedia resources, and demonstrations. It is critical to involve students in talks to examine their prior knowledge and identify any misconceptions they may have. This prepares the groundwork for the model construction phase by ensuring that all students have a solid understanding of the fundamental concepts. According to Windschitl et al. (2008), giving a coherent conceptual framework allows students to anchor their first models and improves subsequent learning.

Step 2: Model Creation

Students are tasked with developing models that reflect their current understanding of the ideas. These models may be visual (drawings or diagrams), physical (3D models), or mathematical (equations and simulations). The teacher's responsibility is to facilitate the creative process by providing direction and resources as needed. Encouraging numerous ways of representation accommodates varied learning styles and offers a thorough knowledge of the concepts. As Gobert and Buckley (2000) point out, model construction allows students to externalize their thoughts while also providing a solid foundation for additional exploration and refining.

Step 3: Testing and Refinement

Once the initial models are created, they need to be tested to see how well they predict or explain the phenomena. This can involve experiments, simulations, or comparisons with real-world data. Students analyze the results, identify any discrepancies, and refine their models accordingly. This iterative process is crucial for developing a deeper understanding and more accurate representations. Lehrer and Schauble (2006) emphasize that testing and refinement encourage critical thinking and help students develop a more nuanced understanding of scientific concepts.

Step 4: Analysis and Interpretation

After refining the models, students use them to make predictions and explain various phenomena. This phase involves interpreting the results of their tests and experiments within the context of their refined models. Discussions should focus on how well the models align with existing theories and what new insights they provide. This step is critical for helping students connect their models to broader scientific principles and understand the implications of their findings. As noted by Passmore and Svoboda (2012), analysis and interpretation deepen students' conceptual understanding and enhance their ability to communicate scientific ideas.

Step 5: Reflection and Discussion

The final step is to reflect on the entire model-building process and discuss the outcomes. Students should discuss their experiences, obstacles, and insights discovered during the project. This reflection helps to solidify their learning and allows them to discuss the constraints of their models as well as potential areas for future research. Group conversations promote a collaborative learning atmosphere in which students can benefit from one another's perspectives. Schwarz et al. (2009) emphasize the value of reflection and conversation in establishing understanding and fostering ongoing investigation.

1.2 Three lessons plan by using the model-based learning that cover three science contents in body system, plant structure, and solar system, each lesson plan was for 8 hours that required 24 hours in total.

1.3 Finding educational quality of model-based learning by three experts in science education. The results of educational quality were at good level.

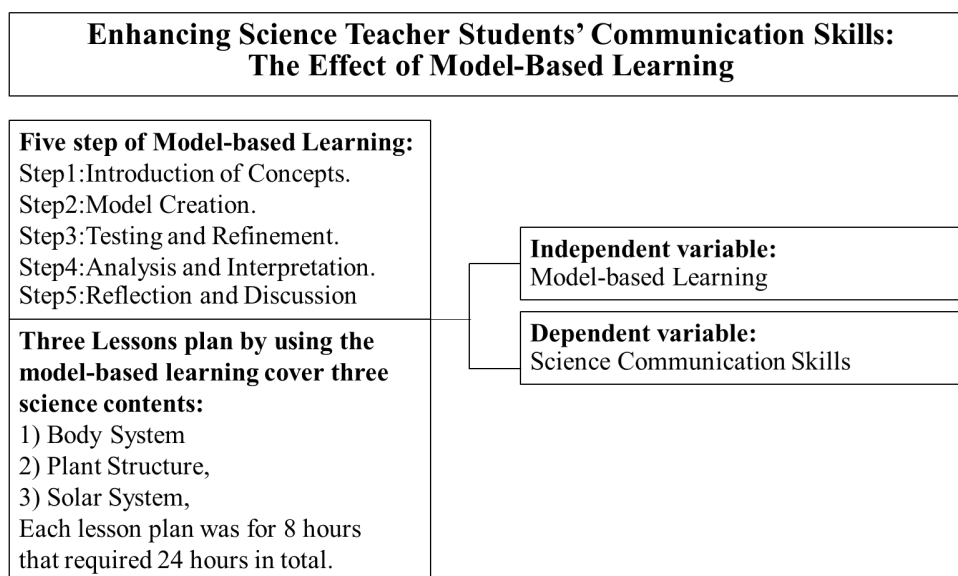


Fig.1 Model-based learning enhancing science communication skills

Phase 2: Instructional Experimenting With Science Student Teachers

2.1 The population for this study is 3rd years of science teacher students from the Faculty of Education at Udon Thani Rajabhat University, Thailand in Semester 2, academic year 2023, with 3 classroom and 75 students. The sample group used in this research, it is a population group of 21 students, obtained from cluster random sampling.

2.2 This study were two variables; the independent variable was instruction by using the model-based learning and the dependent variable were science communication skills.

2.3 Hypothesis of this study: After the experiment, the student who learned through the model-based learning had an average score in science communication skills higher than before.

2.4 The design of this study was a pre-experimental design. Research design used is one group pretest and posttest design (John & James, 2005).

2.5 The instruments evaluation of instructional experimenting was science communication skills assessment that related to rating scale according to the Likert method. The assessment related to 5 items 1) content clarity and accuracy, 2) organization and structure, 3) explanation and reasoning, 4) language and presentation, and 5) question handling and interaction.

2.6 The procedures in this study taught by using the model-based learning, before starting experimental the sample group have been applied a scale of pretest of science communication skills assessment. The teacher was informed about the purpose of the study and the model-based learning to develop science communication skills then using instruction, during the process teacher was observed, the interaction between teacher-students and students-students; participation and contribution of students into learning environment and teacher as well as the physical conditions and material availability of the classroom. Teacher only provided questions, suggested approaches, gave feedbacks, and assessed understanding. After finished using instruction the sample group have applied a scale posttest of science communication skills assessment that the test same pretest.

2.7 The pretest and posttest scores were used to analyze the statistical data to test the hypotheses further.

2.8 The data analysis using mean, percentage, and standard deviations of measured quantities were determine and t-test for one samples and t-test for dependent samples done for hypothesis testing

Result of this Study

Science Communication Skills: the result of science communication skills after applying model-based learning, the means of the pretest and posttest of science teacher students have compared by t-test for dependent samples. Generally, research data of this can be summarized in table 1 as below.

Table 1: The comparison between pretest-posttest of science communication skills of science teacher students by using model-based learning.

N	Score	Test	Mean	S.D.	%	t-test
21	25.00	Pretest	11.57	1.363	38.57	21.523** p<.001
		Posttest	22.48	1.778	74.92	

Note. **p<.01

According to table 1, the mean science communication skills pretest score obtained by science teacher students was 11.57 (38.57%). After learning, their mean posttest score is

22.48 (74.92%). This is a comparison of science communication skills to determine how there is improvement from pretest to posttest; the results reveal that the posttest mean score was higher than the pretest.

Finding and Discussion

According to research, model-based learning improves conceptual grasp of scientific principles among science teacher students. Windschitl et al. (2008) found that students who participated in model-based learning had a better knowledge of complicated scientific topics than those who used standard learning methods. This progress is ascribed to students' active participation in the iterative process of designing, testing, and improving models, which aids in their ability to comprehend and express scientific concepts. Model-based learning has been found to enhance science communication abilities among teacher students. Schwarz et al. (2009) found that students who participated in model-based learning activities were better able to explain scientific phenomena, both in writing and orally. This is because model-based learning forces students to communicate their models, justify their design decisions, and explain the underlying scientific principles, which improves their capacity to express difficult ideas simply and concisely. Research by Passmore and Svoboda (2012) found that model-based learning increases student engagement and motivation in learning science. The hands-on, interactive nature of model-based learning makes learning more engaging, as students are actively involved in constructing and revising models. This increased engagement translates to a higher level of interest and motivation, which is crucial for the effective learning and teaching of science. Model-based learning fosters the development of critical thinking and problem-solving skills. According to Lehrer and Schauble (2006), the iterative nature of model-based learning encourages students to critically analyze their models, identify shortcomings, and develop solutions. This process not only improves their scientific reasoning but also enhances their ability to tackle complex problems, an essential skill for future science teachers. While the benefits of model-based learning are evident, several challenges must be addressed to implement it effectively in science teacher education. One significant challenge is the need for adequate training and support for teacher educators to effectively facilitate model-based learning activities. Additionally, there may be resistance to change from traditional teaching methods to more interactive and student-centered approaches. Overcoming these challenges requires a concerted effort from educational institutions, policymakers, and educators to provide the necessary resources, training, and support.

Students' Opinions on Learning Activities

“I really enjoyed it; I planned and thought about how to make the model as great as possible while allowing students to comprehend as quickly as possible.”

“I would like to study like this again, it let me explore and discover on my own.”

“I would like to employ this learning management technique with the students I'm going to train. It must be quite interesting.”

“According to the findings of the scientific communication behavior observation, science teacher students demonstrate a wide range of clear, accurate, and engaging scientific communication behaviors.”

Conclusion

Model-based learning has demonstrated significant potential in enhancing the science communication skills of science teacher students. By fostering a deeper conceptual understanding, increasing engagement and motivation, and developing critical thinking and problem-solving abilities, model-based learning equips future science teachers with essential skills for effective science education. The iterative process of creating, testing, and refining models not only helps students internalize scientific principles but also improves their ability to communicate complex ideas clearly and accurately. However, the successful implementation of MBL requires addressing challenges such as providing adequate training and support for educators and overcoming resistance to change from traditional teaching methods. Overall, model-based learning offers a promising approach to preparing future science teachers to effectively teach and inspire the next generation of scientists, making it a valuable addition to science teacher education programs.

Recommendation

1. Conduct long-term studies to evaluate the sustained impact of model-based learning on science teacher students. These studies should track the progress of students from their initial exposure to model-based learning through their early years of teaching to assess how model-based learning influences their teaching practices, science communication skills, and student outcomes over time.
2. Compare the effectiveness of model-based learning with other instructional strategies, such as inquiry-based learning and technology-enhanced learning environments. By examining different approaches, researchers can identify the unique contributions of model-based learning and determine how it can be most effectively integrated with other teaching methods to maximize its benefits.
3. Develop and validate assessment tools specifically designed to measure the science communication skills of students engaged in model-based learning. These tools should be capable of capturing both the content and clarity of students' explanations, as well as their ability to justify and defend their models. Reliable assessment methods will enable educators to more accurately gauge the impact of model-based learning on students' communication abilities.
4. Explore the role of technology in enhancing model-based learning experiences. Research should investigate how digital tools and platforms can support the creation, testing, and refinement of models, as well as how technology can facilitate collaboration and communication among students. Additionally, studies should examine the potential of virtual and augmented reality in providing immersive and interactive model-based learning experiences.

References

- Gobert, J. D., & Buckley, B. C. (2000). Introduction to Model-Based Teaching and Learning in Science Education. *International Journal of Science Education*, 22(9), 891-894.
- Lehrer, R., & Schauble, L. (2006). Scientific thinking and science literacy. In W. Damon, R. M. Lerner, K. A. Renninger, & I. E. Sigel (Eds.), *Handbook of Child Psychology* (6th ed., Vol. 4, pp. 153-196). Wiley.
- Lehrer, R., & Schauble, L. (2006). Scientific Thinking and Science Literacy: Supporting Development in Learning in Context. *Journal of Applied Developmental Psychology*, 27(1), 97-109.
- McDermott, L. C., Shaffer, P. S., & Constantinou, C. P. (2018). Research as a guide for improving student learning: An example from introductory physics. *Physics Education Research Conference Proceedings*, 1(1), 1-6.
- NGSS Lead States. (2013). *Next Generation Science Standards: For States, By States*. The National Academies Press.
- Passmore, C., & Svoboda, J. (2012). Exploring Opportunities for Argumentation in Model-Based Inquiry Activities. *Science Education*, 96(5), 807-825.
- Passmore, C., & Svoboda, J. (2012). Exploring Opportunities for Argumentation in Modelling Classrooms. *International Journal of Science Education*, 34(10), 1535-1554.
- Schwarz, C. V., Reiser, B. J., Davis, E. A., Kenyon, L., Achér, A., Fortus, D., ... & Krajcik, J. (2009). Developing a Learning Progression for Scientific Modeling: Making Scientific Modeling Accessible and Meaningful for Learners. *Journal of Research in Science Teaching*, 46(6), 632-654.
- Windschitl, M., Thompson, J., & Braaten, M. (2008). Beyond the Scientific Method: Model-Based Inquiry as a New Paradigm of Preference for School Science Investigations. *Science Education*, 92(5), 941-967.

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***Experiential Learning Through Play and Science:
Enhancing Science Process Skills in Early Childhood Teacher Students***

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Abstract

This study looks into the efficacy of experiential learning through play and science activities in building scientific process skills among early childhood teacher students. The research uses a four-step experiential learning model:

1. Situations/Interpretations: Engaging in play-based and science discovery activities.
2. Reflection: Asking questions to analyze activity outcomes.
3. Conceptualization: Synthesizing and solidifying knowledge of scientific process skills.
4. Application: Integrating acquired knowledge into everyday life or modifying it through repeated practice.

Specifically designed activities targeted various process skills, including observation, classification, communication, drawing conclusions, and making predictions. The results revealed positive outcomes:

- Early childhood teacher students demonstrated a good level of knowledge and understanding of scientific process skills.
- Their scientific practical fluency achieved a satisfactory level.
- This experiential learning approach proved beneficial for educators, fostering scientific curiosity and equipping them to organize effective science activities for early childhood development.

This research emphasizes the potential of play-based and science activities in equipping future educators with the necessary skills to nurture scientific exploration and discovery in young children.

Keyword: Experiential Learning, Science Process Skills, Attitude Toward Activity Learning

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1. Introduction

1.1 How Important Are Science Process Skills for Early Childhood Learning?

Science process skills are crucial for early childhood learning as they lay the foundation for critical thinking, problem-solving, and understanding the world around them. These skills include observing, classifying, measuring, predicting, and experimenting, which help young children develop their cognitive abilities and scientific thinking. There are 4 reasons why science process skills are important 1) Science process skills encourage children to ask questions, make observations, and draw conclusions based on evidence. This promotes critical thinking and analytical skills, which are essential for all areas of learning. According to Padilla (n.d.), science process skills are fundamental for nurturing young learners' abilities to think critically and solve problems, 2) engaging in scientific activities helps children improve their cognitive functions such as memory, attention, and reasoning. Truglio (2020) emphasizes that early exposure to science helps children develop their cognitive abilities by engaging them in activities that require them to think, reason, and solve problems, 3) science process skills foster a sense of curiosity and exploration in children. They learn to explore their environment, ask questions, and seek answers through hands-on experiences. Walton Academy (n.d.) highlights the importance of science in early childhood education, stating that it encourages children to explore and understand the world around them, thereby promoting a lifelong love for learning, and 4) Early mastery of science process skills set the stage for future academic success. Children who develop these skills early are better prepared for more complex scientific concepts and methodologies in later years. In summary, science process skills are vital for early childhood learning as they support critical thinking, cognitive development, curiosity, and a strong foundation for future academic success. Encouraging these skills from a young age can significantly impact a child's educational journey and overall development.

1.2 Why Is It Necessary for Early Childhood Teachers to Understand and Apply Scientific Processes Skills?

In early childhood education, the role of the teacher in guiding children's scientific inquiry is pivotal and multifaceted. A crucial aspect of this role is grounded in the teacher's pedagogical science knowledge, which encompasses a deep understanding of scientific concepts relevant to the children's explorations. Worth, K. (1999) emphasizes that while direct instruction of scientific concepts may not be suitable for young children, the structure of learning experiences and the teacher's facilitation are guided by their grasp of fundamental scientific principles. Through thoughtful questioning, comments, and probes, teachers can direct children's attention to essential scientific phenomena, such as the flow of water or the movement of snails. By aligning their guidance with children's interests and natural curiosity, educators create rich learning environments that foster scientific inquiry and reflection. Worth's insights underscore the importance of equipping early childhood educators with robust pedagogical science knowledge. This knowledge not only supports effective facilitation of scientific explorations but also enhances educators' ability to scaffold children's learning experiences in ways that promote meaningful engagement with scientific concepts. Ultimately, by integrating pedagogical science knowledge into their practice, teachers play a critical role in laying the foundation for children's lifelong curiosity and understanding of the natural world. Moreover, integrating pedagogical science knowledge into their practice allows instructors to design activities that integrate various subjects and relate them to real-life experiences. This makes learning more meaningful and engaging for

children. Instructors with scientific process skills can teach children to think systematically through observation, questioning, experimenting, and analyzing results. This helps children develop critical thinking and logical reasoning skills. Therefore, early childhood instructors who understand and apply scientific process skills can create a rich, engaging, and successful learning environment.

1.3 Why Important Is Experiential Learning?

Experiential learning is an essential part of modern-day Learning and Development (L&D) strategies because it promotes active learning, which is an essential part of employee engagement in a remote work environment. Kolb Experiential Learning Theory, developed by David A. Kolb, is widely recognized and influential framework that describes how people learn through experience. Since learning is the primary process used to navigate life, people can use this process for all forms of learning, development, and change. Learning occurs in any setting and continues throughout life. The experiential learning process supports performance improvement, learning and development. David Kolb described the ideal process of learning in a four-step Experiential Learning Cycle: Experiencing – Reflecting – Thinking – Acting. (Experiential Learning Institute. n.d.) Educators know that a student learns more quickly and retains more information when the subject matter pertains to them personally, and doing makes learning extremely personal. As Sir Richard Branson says, *“You don't learn to walk by following rules. You learn by doing, and by falling over”* (Envision Experience. 2023). Experiential learning is important because it bridges the gap between theory and practice, enhances engagement, and fosters deeper understanding and retention of knowledge. According to the Experiential Learning Institute, this approach emphasizes active participation and reflection, which helps learners develop critical thinking, problem-solving skills, and the ability to apply knowledge in real-world contexts (Experiential Learning Institute, n.d.). Moreover, experiential learning can boost motivation and enthusiasm for learning. Envision Experience (2023) highlights that students who engage in hands-on activities are more likely to be invested in their education, leading to improved academic performance and personal growth. Additionally, Abington Friends School (2021) notes that this method cultivates essential life skills such as collaboration, communication, and adaptability, which are crucial for success in today's rapidly changing world. In summary, experiential learning is a powerful educational approach that not only enhances academic outcomes but also prepares individuals for the complexities of real-life challenges by fostering essential skills and encouraging active, meaningful learning experiences.

1.4 Why Important Is Learning Through Play and Science?

Discover the numerous benefits of play-based learning in early education and the important roles play in children's social, emotional, physical, and academic development. Play-based learning has numerous benefits. It has an important role in early childhood education. A play-based program understands the importance of play in a child's development. It is a child-centered, age-appropriate pedagogy that fosters creativity, social interaction, academic skills, and critical thinking skills. Play-based learning is an approach to education that offers students different types of playful activities and experiences in the classroom. It is an age-appropriate, child-centred approach that focuses on learning through purposeful play. Through play, children can develop their cognitive, social, emotional, and physical skills. Play-based learning is often used in early childhood education, but it can be implemented in all grade levels (My Teaching Cupboard. n.d.). Learning through science play is crucial for children's development for several reasons such as 1) Science play allows children to engage

directly with materials, phenomena, and experiments, fostering a deeper understanding of scientific concepts (Gelman & Brenneman, 2004), 2) Play-based learning encourages children to ask questions, make predictions, and explore the world around them, promoting curiosity and a desire to understand scientific principles (Gopnik et al., 2000), 3) Through science play, children learn to experiment, test hypotheses, and solve problems, developing critical thinking and analytical skills essential for scientific inquiry (Bullock, 2003), 4). Play encourages creativity by allowing children to imagine, invent, and explore new ideas, which are fundamental to scientific discovery and innovation. (Bergen, 2002), 5) Collaborative play in science activities promotes teamwork, communication, and negotiation skills, as well as resilience and perseverance when faced with challenges (Dewey, 1938), and 6). Early positive experiences with science play can cultivate a lasting interest in science and STEM fields, potentially influencing future academic and career choices (Bonawitz et al., 2011). In conclusion, learning through science play is crucial for children's development on multiple fronts. It not only engages their curiosity and motivation but also enhances critical thinking, problem-solving skills, and creativity. By providing hands-on experiences and encouraging exploration, science play fosters a deeper understanding of scientific concepts while promoting social and emotional growth. These early positive experiences lay a foundation for lifelong interest in science, preparing children to become curious, informed, and capable individuals in an increasingly scientific and technological world.

1.5 Statement of the Problem

Based on the reasons provided above the goals of this study were to answer the following questions "How did the process of experiential learning through play and science promote learning outcomes in knowledge, scientific process skills, and attitude toward activity learning of early childhood teacher students?" Thus, an attempt has been made through this study to find "Experiential Learning Through Play and Science to Enhancing Science Process Skills in Early Childhood Teacher Students"

2. Objectives of the Study

The objectives of this study are as follows:

1. To study and compare knowledge outcomes about scientific process skills in early childhood teacher students before and after experiential learning through play and science activities.
2. To study and compare scientific process skills in early childhood teacher students before and after experiential learning through play and science activities.
3. To study attitude towards after experiential learning through play and science activities in early childhood teacher students.

3. Significance of the Study

The significance of the study attempted to:

- It is a guideline for creating experiential learning through play and science activities, which will be used to organize science learning activities for early childhood teacher students. This will be useful for early childhood teacher students in developing scientific knowledge, scientific process skills, and the scientific mind. Including developing expertise and fluency in hands-on science process skills to be applied in organizing science learning experiences for early childhood children. It also encourages early childhood teacher students to be self-confident, creative, and have

the ability of creating information in the form of holistic thinking. Students have fun studying together, understand how to work as a team, understand their own roles, take leadership, be accountable, and have a positive attitude toward organizing science learning opportunities.

- It is important for university lecturers since they frequently conduct learning activities in the form of lectures or in which students demonstrate their knowledge in front of the class, which does not reflect on learning outcomes, using the example of experiential learning through play and science activities, construct learning activities that focus on students' learning through situations/interpretations, reflection, conceptualization, and application, students reflecting the results of self-learning to self-created knowledge. This study can be used as a framework for building competency-based learning guidelines for develop student in the twenty-first century.

4. Delimitations of the Study

The study was delimited to the investigation into 2 phases:

Phase 1: Developing and Assessing the Quality of Lessons Plan for Experiential Learning Using Play and Science Activities

1.1 Play and science activities are integrated with the experiential learning model concept (Kolb, 1984) to enhance learning scientific outcomes, science process skills and scientific mind. This combination of play activities and scientific exploration makes learning fun and engaging while promoting scientific understanding and thinking, which becomes more interesting and effective. It also fosters a deeper engagement with the material and encourages learners to participate actively and be curious.

The four steps of experiential learning using play and science activities are as follows.



Fig.1 Kolb's Cycle of Experiential Learning

1. Situations/Interpretations: Engaging in play-based and science discovery activities.
2. Reflection: Asking questions to analyze activity outcomes.
3. Conceptualization: Synthesizing and solidifying knowledge of scientific process skills.
4. Application: Integrating acquired knowledge into everyday life or modifying it through.

1.2 Four lessons plan of experiential learning using play and science activities are as follows 1) Have fun with observation and classification, 2) Choose correctly to measurement and using numbers, 3) Excited about space and communication, and 4) Predictions and data interpretation. This activity covers 8 basic science process skills including 1) observation, 2) classification, 3) measurement, 4) using number, 5) communication, 6) data interpretation, 7) space and space, space and time, and 8) prediction.

1.3 Four lessons plan of experiential learning using play and science activities passed 3 experts in early childhood science teaching or science education conducted a quality inspection, evaluating the appropriateness of organizing learning activities, timing, measurement and evaluation and media used in learning. Overall, experiential learning using play and science activities were of high quality. The activities were tryout by the early childhood teacher students who were not in the sample. The result of tryout show that students have understanding of and proficiency with the scientific process skills, perform activities fluently and students wish to resume learning in these activities.

Phase 2: Experiment Teaching While Following the Created Lesson Plans

2.1 Population and Sample Selection

The population for this study is 3rd years of early childhood teacher students from the Faculty of Education at Udon Thani Rajabhat University, Thailand in Semester 2, academic year 2023, with 2 classroom and 56 students. The sample group used in this research, it is a population group of 25 students, obtained from cluster random sampling.

2.2 Research Variables

The study included four variables:

- 2.2.1 The independent variable: Experiential learning through play and science activities
- 2.2.2 The dependent variable 1: Knowledge outcomes about scientific process skills
- 2.2.3 The dependent variable 2: Scientific process skills
- 2.2.4 The dependent variable 3: Attitude towards after learning activities

2.3 Research Contents

This activity covers 8 basic science process skills including 1) observation, 2) classification, 3) measurement, 4) using number, 5) communication, 6) data interpretation, 7) space and space, space and time, and 8) prediction.

2.4 Research Hypothesis

Based on the research questions, the following hypothesis was formulated:

1. Experiential learning through play and science for early childhood teacher students, there was a greater learning outcome in knowledge of scientific process after studying than before studying.
2. Experiential learning through play and science for early childhood teacher students, there was a greater learning scientific process skills after studying than before studying.
3. Early childhood teacher students gain experiential learning through play and science and have good attitude toward activity learning after their studies.

2.5 Research Time

In this study were experiment 6 weeks, 4 weeks for the instruction (use the time to experiment with instruction 1 lessons plan per week, 4 hours per plan, total time 16 hours),

and 2 weeks for the application of the pretest and the posttest. This study experiment in semester 2, academic year 2023.

5. Research Concept Framework

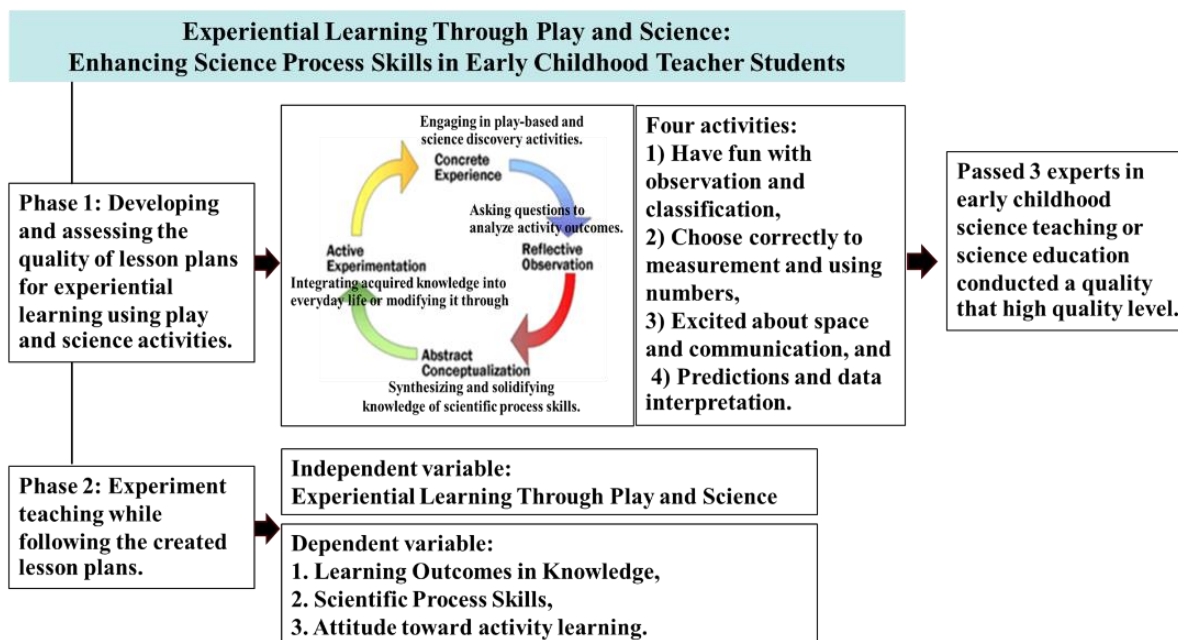


Fig.2 Research concept framework of Experiential Learning Through Play and Science: Enhancing Science Process Skills in Early Childhood Teacher Students

6. Research Methodology

6.1 Research Instrument

6.1.1 Instrument for Teaching Experiments

Four lesson plans on contents science process skill activities using the experiential learning through play and science uses a four-step experiential learning model concept (Kolb, 1984).

6.1.2 Instruments of Evaluation

- 1) An outcome in knowledge about scientific process skills test, the test is two – tier multiple – choice test included 16 multiple-choice
- 2) A scientific process skills test, the test is hands-on with 4 testing activities
- 3) An attitude toward activity learning questionnaire: the questionnaire is 5 levels rating scale according to the Likert method, asked about feelings and perceived benefits of learning activities.

6.2 Design of the Study

Research design used is one group pretest and posttest design.

	Group	Pretest	Experimental	Posttest
	E	O ₁	X	O ₂
E	The sample group			
O ₁	Pretest			
X	Using experiential learning through play and science			
O ₂	Posttest			

6.3 Conducting Experiments and Collecting Data

The researcher conducting experiments and collecting data of using experiential learning through play and science to a sample group as follow the steps:

1. The sample group applied scale of pretest of outcome in knowledge about scientific process skills, and scientific process skills in classroom research test.
2. The teacher was informed about the purpose of the study and using instruction based on experiential learning through play and science in classroom research, during the process teacher was observed, the interaction between teacher-students and students-students. The study instruments 6 weeks, 4 weeks for the instruction, 2 weeks for the application of the pretest and the posttest.
3. Applied scale of posttest outcome in knowledge about scientific process skills, scientific process skills that the test same pretest and give opinions in attitude towards learning activity questionnaire.
4. The pretest and posttest scores were used to analyze the statistical data to test the hypotheses further.

6.4 Data Analysis

Mean, percentage, and standard deviations of measured quantities was determined and t-test for dependent samples to compare a greater learning outcome in knowledge of scientific process and scientific process skills after studying than before studying and t-test for one sample that to test good attitude toward activity learning after studies done for hypothesis testing.

7. Findings

7.1 Outcomes Knowledge Outcomes About Scientific Process Skills

The comparison between pretest-posttest of learning outcomes in knowledge scientific process skills of early childhood teacher students by using experiential learning through play and science this can be summarized in table 1 as below.

Table 1: Data analysis results of outcomes in knowledge scientific process skills.

N	Test	Mean Score	S.D.	%	t-test	p
25	Pretest	14.24	2.788	29.67	28.119**	.000
	Posttest	36.44	3.216	75.92		

Note. **p<.01

According to table 1, the mean outcomes in knowledge scientific process skills pretest score obtained by early childhood teacher students was 14.24 (29.67%). After learning, their mean

posttest score is 36.44 (75.92%). This is a comparison to determine how there is improvement from pretest to posttest; the results reveal that the posttest mean score was higher than the pretest.

7.2 Scientific Process Skills

The comparison between pretest-posttest of scientific process skills of early childhood teacher students by using experiential learning through play and science this can be summarized in table 2 as below.

Table 2: Data analysis results of scientific process skills.

N	Test	Mean Score	S.D.	%	t-test	p
25	Pretest	7.96	1.274	33.17	27.070**	.000
	Posttest	18.56	1.609	77.36		

Note. **p<.01

According to table 2, the mean scientific process skills pretest score obtained by early childhood teacher students was 7.96 (33.17%). After learning, their mean posttest score is 18.56 (77.36%). This is a comparison to determine how there is improvement from pretest to posttest; the results reveal that the posttest mean score was higher than the pretest.

7.3 Attitude Toward Activity Learning

The comparison between posttest with specified criteria of attitude toward activity learning of early childhood teacher students by using experiential learning through play and science this can be summarized in table 3 as below.

Table 3: Data analysis results of attitude toward activity learning.

N	Attitude toward	Total	Mean	Criteria Standard	S.D.	%	t-test	p
25	feeling	5.00	4.18	4.00	0.329	83.68	60.60**	.000
	Perceived benefits	5.00	4.21	4.00	0.349	84.16	57.47**	.000
	overall	5.00	4.20	4.00	0.208	83.91	95.93**	.000

Note. **p<.01

According to table 3, the mean attitude toward activity learning after learning in feeling about activities mean score 4.18 (83.68%), perceived benefits 4.21 (84.16%), and overall is 4.20 (83.91%). This is a comparison with criteria standard to determine feeling about activities and perceived benefits, the results reveal that in the feelings, perceived benefits and overall were at the "good" level after their studies.

8. Results Discussions

8.1 Outcomes in Knowledge About Scientific Process Skills and Scientific Process Skills

In this study experiential learning through play and science are 4 step experiential learning model adapted from Kolb's cycle includes engaging in play-based and science discovery activities. In the first step, the instructor engaging students in play-based and science discovery activities, this stage will allow students to exercise their scientific process skills.

This activity has 4 activities are as follows 1) Have fun with observation and classification, 2) Choose correctly to measurement and using numbers, 3) Excited about space and communication, and 4) Predictions and data interpretation. This activity covers 8 basic science process skills including 1) observation, 2) classification, 3) measurement, 4) using number, 5) communication, 6) data interpretation, 7) space and space, space and time, and 8) prediction. This activity is for students to reflect on how the activities are related to their own scientific process skills. In step 2, students collaborated to evaluate, synthesize, or reflect on concepts from the activities they completed in step 1. How did students work on their scientific process skills? What are scientific process skills, and how significant are they? The instructor will be responsible for asking questions to allow students to express themselves as much as possible. In step 3, the instructor will ask students to summarize concepts learnt through concrete experience and reflection. Students will use discussion to build understanding and summarize shared concepts together as abstract conceptualization. In step 4, the instructor introduces new issues or situations to allow students to express their thoughts while using the principles and the previously taught concepts can be implemented in early childhood experiences, such as "Let students create science play activities to practice scientific process skills for early childhood children". Experiential learning through play and science has been shown to effectively increase students' understanding of scientific process skills. The interactive and engaging nature of these activities captures students' interest, making complex scientific concepts more accessible. For instance, students involved in hands-on experiments or scientific games are more likely to understand and remember the steps involved in the scientific process, such as formulating hypotheses, designing experiments, observing results, and drawing conclusions. A study by Hsiung et al. (2018) supports this, indicating that students who participated in experiential learning activities exhibited a better grasp of scientific process skills compared to those who only received traditional lecture-based instruction. The active involvement in scientific processes allows students to see the relevance and application of what they are learning, thereby deepening their comprehension. In addition to enhancing knowledge about scientific process skills, experiential learning through play and science directly improves the skills themselves. When students engage in scientific experiments and problem-solving games, they practice critical thinking, data collection, analysis, and interpretation. These practical experiences are crucial for developing proficiency in scientific methodologies. Johnson et al. (2020) found that game-based learning and interactive scientific activities significantly improved middle school students' scientific process skills. The study showed that students who regularly engaged in these activities developed better observational and analytical skills, enabling them to conduct experiments more effectively and draw more accurate conclusions. The repetitive practice of these skills in a playful and less stressful environment fosters a positive attitude towards learning science, which is essential for sustained educational success. The research highlights the substantial benefits of experiential learning through play and science in enhancing students' knowledge about scientific process skills and the skills themselves. These methods foster a deeper understanding and proficiency in scientific processes, making them invaluable tools in science education.

8.2 Attitude Toward the Experiential Learning Through Play and Science

The positive feelings students had about the experiential learning activities underscore the importance of engagement and enjoyment in the learning process. The interactive nature of play and science activities likely contributed to this favorable response. Activities that were hands-on and exploratory allowed students to actively participate and immerse themselves in the learning experience. This approach contrasts with traditional lecture-based methods,

which can be passive and less engaging. Students reported finding the activities enjoyable and interesting, which is crucial for maintaining motivation and enthusiasm for learning. Enjoyment in learning fosters a more positive attitude towards the subject matter, encouraging students to explore and understand scientific concepts more deeply. Students perceived several significant benefits from engaging in experiential learning through play and science. These perceived benefits include enhanced understanding of scientific concepts, improved scientific process skills, and increased confidence in conducting scientific inquiries. The hands-on nature of the activities provided practical experience that helped students grasp complex concepts more effectively than through theoretical instruction alone. Additionally, the collaborative aspect of many play-based learning activities promoted social interaction and teamwork, which are essential skills in scientific endeavors. Students recognized the value of working together, sharing ideas, and learning from each other, which are all integral components of the scientific process. The findings align with previous research by Hsiung et al. (2018) and Johnson et al. (2020), which also highlighted the benefits of experiential learning in enhancing students' scientific understanding and skills. The positive reception from students suggests that incorporating play and hands-on science activities into the curriculum can be a highly effective strategy for improving science education. The research demonstrates that experiential learning through play and science is well-received by students, with their feelings, perceived benefits, and overall experiences rated at a "good" level. These positive attitudes highlight the effectiveness of these methods in enhancing students' engagement, understanding, and skills in science. By incorporating more experiential learning activities into the curriculum, educators can create a more dynamic and effective science education environment.

Classroom reflections (Students' opinions on learning activities):

"I had so much fun looking for solutions that I forgot about the hour after class was over."

"I would like teachers to plan activities like this. It was so much fun that I forgot about the time limit."

"I enjoy this activity. It seems as if the teacher did not teach anything but I learned something and was quite pleased."

"I understand why we need to participate in activities because it helps us understand ourselves and, more significantly, it teaches me how to design activities for early childhood children to learn while having fun. I will do my best."

9. Conclusion

In conclusion, experiential learning through science play is a highly effective method for building knowledge and proficiency in scientific process skills among early childhood teacher students. This approach also enables these students to construct engaging and educational science activities for young children. By incorporating experiential learning into teacher education programs, educators can better prepare future teachers to create fun and effective science learning experiences for their students. The research highlights the importance of hands-on, play-based learning in early childhood science education and its potential to enhance both teaching and learning outcomes.

10. Recommendations

1. The findings suggest that incorporating experiential learning through play and science into the curriculum can lead to more effective science education. Teachers should consider integrating hands-on experiments, science games, and interactive projects into their lesson plans. By doing so, they can create a more engaging learning environment that not only enhances students' knowledge but also equips them with essential scientific skills.
2. The positive attitudes and perceived benefits reported by students have important implications for educators and curriculum designers. To leverage these advantages, schools and teachers should consider integrating more experiential learning activities into their science programs. Providing opportunities for students to engage in playful, hands-on learning can enhance their interest in science, improve their understanding of scientific concepts, and develop their scientific process skills.

References

- Abington Friends School. (2021, January 11). *The Importance of Experiential Learning*. Retrieved from <https://www.abingtonfriends.net/blog/news/the-importance-of-experiential-learning/>
- Bergen, D. (Ed.). (2002). *Play as a medium for learning and development: A handbook of theory and practice*. Greenwood Publishing Group.
- Bonawitz, E., Shafto, P., Gweon, H., Goodman, N. D., Spelke, E., & Schulz, L. (2011). The double-edged sword of pedagogy: Instruction limits spontaneous exploration and discovery. *Cognition*, 120(3), 322-330.
- Bullock, M. (2003). *The development of play*. Teachers College Press.
- Dewey, J. (1938). *Experience and education*. Kappa Delta Pi.
- Envision Experience. (2023, December 17). *The Benefits of Experiential Learning*. Retrieved from <https://www.envisionexperience.com/blog/the-benefits-of-experiential-learning>
- Experiential Learning Institute. (n.d.). *What is experiential learning?* Retrieved from <https://experientiallearninginstitute.org/what-is-experiential-learning/>
- Gelman, R., & Brenneman, K. (Eds.). (2004). *Science learning and instruction: Taking advantage of technology to promote knowledge integration*. Routledge.
- Gopnik, A., Sobel, D. M., Schulz, L. E., & Glymour, C. (2000). Causal learning mechanisms in very young children: Two-, three-, and four-year-olds infer causal relations from patterns of variation and covariation. *Developmental Psychology*, 36(2), 180-189.
- Hsiung, C.-M., Yen, L.-C., & Chen, Y.-F. (2018). The effect of an experiential learning program on the scientific process skills of elementary school students. *Journal of Science Education and Technology*, 27(4), 327-337.
- Johnson, C., McAuley, M., & Ali, Z. (2020). Enhancing scientific process skills through game-based learning in middle school. *International Journal of Science and Mathematics Education*, 18(3), 567-589.
- My Teaching Cupboard. (n.d.). *Benefits of play-based learning in early education*. Retrieved from <https://www.myteachingcupboard.com/blog/benefits-of-play-based-learning>
- Padilla, M. J. (n.d.). *The Science Process Skills*. Retrieved from <https://narst.org/research-matters/science-process-skills>
- Truglio, R. (2020, January 28). *Helping young children develop early science skills*. Retrieved from <https://joanganzcooneycenter.org/2020/01/28/helping-young-children-develop-early-science-skills/>

Virti. (2024, February 28). *What is experiential learning, and why is it powerful and important?* Retrieved from <https://www.linkedin.com/pulse/what-experiential-learning-why-powerful-important-virti-xldie>

Walton Academy. (n.d.). *Science is important in early childhood education.* Retrieved from <https://www.waltonacademyk5.com/science-is-important-in-early-childhood-education/>

Worth, K. (1999). *Science in Early Childhood Classrooms: Content and Process.* Beyond the Journal: Young Children on the Web. Retrieved from <https://ecrp.illinois.edu/beyond/seed/worth.html>

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***The Development of Student Mental Health Support System,
Udon Thani Rajabhat University, Thailand***

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Abstract

The mental health problem is one of the most important health problems in adolescence in Thailand. The number of mental health patients has doubled in 6 years, rising from 1.3 millions in 2015 to 2.3 millions in 2021. Data from mental health assessment of first-year students at Udonthani Rajabhat University, utilizing the MENTAL HEALTH CHECK IN questionnaire developed by the Department of Mental Health MOPH, indicated that 42.2% were in moderate to high-stress levels, 37.4% were at risk of depression, 4.8% displayed moderate depressive symptoms, and 1.3% had severe depression, 6.4% were at low risk, 2.5% at moderate risk, and 1.6% at high risk of suicidal. UDRU has established a student mental health support system. This initiative involves 1) screening and surveillance of mental health status among students 2) stakeholders and network analysis within and outside the university 3) collecting on data analysis, then used these data for planning operations. 4) Set up the mental health care center named “UDRU Care Plus” as a Consultation Center to coordinate cooperation among all faculties. 5) developed healthy public policies to address on mental health issues within the university. Memorandums of Understanding (MOUs) have been signed with Mental Health Center 8 for academic collaboration and with Udon Thani Hospital to link referral systems for severe cases. The outcomes include implementing a monitoring system for the mental health of students, screening and monitoring 2,231 students, providing counseling to at-risk individuals, developing the capabilities of 30 advising professors, establishing a youth counseling network with 70 members, and a collaboration project.

Keywords: Mental Health Support System, Adolescence, Thailand

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Background

Mental health problem is one of the most important health problems in adolescence of Thailand. The number of mental health patients has doubled in 6 years, rising from 1.3 million in 2015 to 2.3 million in 2021. Data from mental health assessment of first-year students at Udon Thani Rajabhat University, utilizing the MENTAL HEALTH CHECK IN questionnaire developed by the Department of Mental Health MOPH, indicated that 42.2% were in moderate to high stress levels, 37.4% were at risk of depression, 4.8% displayed moderate depressive symptoms, and 1.3% had severe depression, 6.4% were at low risk, 2.5% at moderate risk, and 1.6% at high risk of suicidal. Mental health problem not only has a huge size of problem, but it also impacts on students' holistic health, family member, community, social and economics. However, decreasing of this problem can be made by mental health support system management. Therefore, UDRU has established a student mental health support system.

Objective

1. To develop student mental health support system.
2. To provide mental health services for student.

Methodology

This initiative involves:

1. Screening and surveillance mental health status among students.
2. Stakeholder and network analysis within and outside the university.
3. Collecting on data analysis, then used these data for planning operations.
4. Set up the mental health care center named "UDRU Care Plus" as a Consultation Center to coordinate cooperation among all faculties.
5. Developed healthy public policies to address on mental health issues within the university.
6. Memorandums of Understanding (MOUs) have been signed with Mental Health Center 8 for academic collaboration and with Udon Thani Hospital to link referral systems for severe cases.

Results

The outcomes of project "The Development of Student Mental Health Support System" include, 1) set up the mental health care system and counseling system in the University 2) The university has flow chart for mental health care, counseling and referral system 3) developing the capabilities of 30 advising professors and establishing 70 youth counseling network 4) screening student's mental health 2,231 students, providing counseling to at-risk individuals 5) monitoring system via a collaboration project among Student Development Departments and Instructors from all faculties.

Conclusions

Project results found that "Development of Student Mental Health Support System" set up the mental health care system and counseling system in the University and provide a coverage of student's mental health care more than in the past. This project also improves an instructor's awareness on students' mental health. A collaboration project among Student

Development Departments and Instructors from all faculties can be made participation and mental health care sustainable system.

Discussions

Factors of Success of this project include memorandum of understanding has been recorded for the "Mental Health Network Project: Stepping Towards Quality Thai People" between the Department of Mental Health and 38 Rajabhat Universities under the Ministry of Higher Education, Science, Research, and Innovation. The objective is to drive and expand mental health care and support for students across all Rajabhat Universities, integrating efforts between related agencies within the Ministry of Education and the Ministry of Higher Education, Science, Research, and Innovation in each health region. This ensures that students and relevant personnel at all Rajabhat Universities receive mental health promotion and prevention support (Department of Mental Health, Ministry of Public Health, 2023). This has garnered significant attention from university administrators.

The university has established a student mental health care system under the UDRU CARE+ Counseling Center at Udon Thani Rajabhat University (2023), which is responsible for providing mental health support, academic assistance, and aid to students facing various life problems. It also monitors mental health issues through methods and tools implemented in collaboration with the university, service centers, and related agencies.

The increase in stress, anxiety, depression, and mental and psychiatric illnesses has become more prevalent and noticeable, prompting universities to prioritize these issues. A strong referral network with partner hospitals ensures quick, confidential student care.

Key concepts in "Developing a Student Mental Health Care Model" using the "Whole School Approach (WSA)" which Including 10 main elements as follows (1) System management and implementation of WSA includes formal policies and a dedicated team. (2) Quality Control and Evaluation: Systems for planning, monitoring, and using data for decision-making, with support for personnel and financial resources. (3) Development of School Committees and Parent Networks: Regular meetings, informal working groups, and decision-making platforms. (4) Community Connection: Engagement with community leaders, alumni, parents, and networks to create learning and development opportunities for youth. (5) Student Leadership Development: Empowering student leaders in peer support roles. (6) Health and Social Services Connectivity: Establishing links with local health and social services for students, instructors, and other stakeholders, with health data management and access protocols. (7) Supporting system for students at risk group and facing mental health problems through youth counselling volunteer network, safety, and welfare, with monitoring and evaluation mechanisms. (8) Curriculum and Activity Integration: Developing and adapting curricula and activities related to student mental health. (9) Learning Environment Management: Enhancing physical and social environments for well-being both inside and outside the classroom. (10) Instructor Capacity Building: Through various activities and support forms, reflecting existing and desired teacher competencies, with mechanisms for teacher development, monitoring, and evaluation.

Problems and Obstacles

Some problems of this project including (1) Perception of Mental Health: Mental health is often seen negatively, as a personal problem rather than a health issue, leading to a stigma

and underutilization of services until severe conditions arise. (2) Economic Conditions, because of Covid19 pandemic economic challenges affecting students and affecting to increasing of students' mental health problem. (3) Before conducting this project mental health issues is not including in a University Policy, therefore some instructors are not prioritized in this issues (4) Inadequate Staff: Insufficient student-to-staff ratios and outdated staffing frameworks for current situations.

Challenges and Recommendations for Future Steps

(1) Recommendations for University Administrators. *Policy Declaration:* Make mental health a primary role in university operations. *Budget and Action Plans:* Allocate budgets and personnel for mental health initiatives. *Understanding Promotion:* Educate faculty administrators about mental health strengthening systems. *Support and Monitoring:* Encourage and oversee plan implementations. *Advisor Evaluation Metrics:* Adjust metrics to include mental health screening and support. *Staff Motivation:* Boost morale for staff involved in mental health initiatives.

(2) Recommendations for the Student Development Division. Student Development Division should develop action plans and budgets for mental health initiatives. *Mental Health Screening:* Implement mental health checks for all students annually. *Enhance students' Capacity Building* on mental resilience and literacy, including skills like self-awareness, self-management, responsible decision-making, relationship building, and social understanding, along with basic counseling skills and recognizing warning signs.

(3) Recommendations for UDRU CARE+. Create action plans based on mental health situations from screening data and target groups needs analysis. *Develop training courses* media and materials on mental health issue for student. *Promote UDRU CARE+* to university personnel and students. *Effective Online Counseling:* Provide efficient 24/7 online counseling services. *Monitor factors* affecting student mental health, such as life skills, sexuality, and drug use. *Referral System Development* to connect with external agencies, including mental health services. *Application Development* for screening, counseling system, support, academic data, research, and evaluation.

(4) Recommendations for All Instructors as a Student's Mentors. Regularly enhance skills development for mental health screening, basic support, and efficient referrals. *Maintain mental health check-in records* and initial support data for students under their care.

References

- Department of Mental Health Promotion, (2022). Student Support System in Universities. Mental Health Knowledge Repository, Department of Mental Health, accessed February 2, 2024, <https://www.dmh-elibrary.org/items/show/1535>
- Mental Health Center 8. (2023). Guidelines for the Implementation of the University Student Support System. Workshop on Planning Mental Health Support Operations for Students at Rajabhat University, Health Zone 8. Meeting Room 4, Chalermprakiat Building, Udonthani Rajabhat University.
- Mental Health Center 8. (2023). Report on Strengthening Mental Resilience in the University Student Support System at Rajabhat University. Report on Strengthening Mental Resilience in the University Student Support System, Health Zone 8, Udonthani.
- Mental Health Center 8. (2023). Adolescent Mental Health Situation. Report on Strengthening Mental Resilience in the University Student Support System at Rajabhat University. Meeting Room 4, Chalermprakiat Building, Udonthani Rajabhat University, Montathip Hall, Udonthani International Convention and Exhibition Center, Udonthani.
- Sirikorn Wangkhasang. (2023). Student Mental Health Assessment Report. Report on the Network Partner Project for Mental Health Care Towards Quality Thais, 2022. Udonthani Rajabhat University, 2022.
- Sirikorn Wangkhasang. (2023). Report on Student Counseling Services. Report on Counseling Services at UDRU Care Plus Center, Udonthani Rajabhat University.

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Factors Affecting the Welfare of Coastal Communities in Karawang District, Indonesia

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Abstract

Cilamaya Subdistrict is one of the areas of Karawang Regency located on the coast of the Java Sea directly adjacent to the sea. This area has marine potential, diversity of fishery resources and beach tourism objects that can be developed. This potential has economic value for the welfare of coastal communities. However, despite the diverse potential, the level of welfare in coastal areas is still minimal due to poverty. In general, coastal communities are marginalized not only geographically but also in the internal aspects of the community itself. Therefore, with various social phenomena, development and empowerment are needed in the region. The development of the maritime sector in national economic development has always been in a marginal position (peripheral sector). This study aims to analyze the simultaneous and partial effects of employment, household expenditure, income and assets/ownership variables on welfare. Using the survey method, a sample of 174 people was taken and a questionnaire was used as the data collection instrument. This study used primary data and secondary data. The data analysis used was multiple linear regression analysis. The results show that together the variables of employment, household expenditure, income and property have a significant influence on the welfare variable. In some cases, the income and wealth variables have a positive and significant effect on welfare. Meanwhile, the household expenditure variable has a positive but insignificant effect on welfare. The employment variable is negative and has no significant effect on welfare.

Keywords: Coastal Communities, Effect, Welfare

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Introduction

Indonesia's coastal zones are rich in marine biodiversity, hosting a variety of ecosystems such as estuarine beaches, mangroves, coral reefs, and more (Mardianto, 2018). These areas offer economic opportunities but face challenges such as environmental degradation due to past development practices (Daulay, 2009). Despite being the largest archipelago globally, Indonesia's marine and fisheries development has not met expectations, with vast untapped natural resources in coastal areas and small islands. Efforts to manage coastal zones have been growing, with legislation devolving management to provincial and local governments, aiming for the sustainable utilization of marine resources (Lasabuda, 2013).

Indonesia is an archipelago state with approximately 70 percent of its territory are sea. This sea area has high potential in terms of marine economy and diversity of fishery resources. This potential diversity is of economic value for the welfare of people in the water area or commonly referred to as coastal areas. However, from this diverse potential, the level of welfare in coastal areas is still minimum due to poverty. As researched by Indarti (2015), coastal communities are generally not only marginalized in terms of geography, but also in the internal aspects of the community itself. Therefore, facing various social phenomena, especially welfare and poverty, development and empowerment are needed in the region.

Marine sector development in national economic development has always been in a marginalized position (peripheral sector). This means that the marine sector, which can also be a maritime industry, marine tourism, marine resource export services, is not the main goal of national economic development. Whereas Indonesia's water area is estimated to reach 5.8 million km². This condition is ironic when compared to the level of welfare in the region which is still marginalized (Wahdaniyah et al., 2018).

A prosperous, just and just society is the goal of national development. Achieving these goals requires the empowerment and management of existing resources, both human resources and natural resources. Indonesia is a country rich in natural resources. Natural resources are one of the important factors in everyday life that has a relationship with the stability of a country and supports development.

The welfare of coastal communities is an important aspect that is related to various factors such as psychological welfare, economic activities such as seaweed farming, and empowerment programs for community development. Studies emphasize the importance of understanding the relationship between psychological welfare and sustainable development in coastal communities (Listyati. et al., 2022). In addition, improving community welfare through activities such as seaweed farming is highlighted as a means to improve economic conditions in coastal areas (Belinda. et al, 2021). Furthermore, empowerment of coastal communities through engagement in programs can lead to improved welfare and support maritime security efforts. Overall, a holistic approach that integrates psychological welfare, economic activities, and community empowerment is essential to promote the welfare of coastal communities and ensure sustainable development (Wayan, 2021).

The level of community welfare is the essence of national development that reflects the quality of life of individuals or groups. As researched by Fadli and Nurlukman (2018), efforts to improve the welfare of coastal communities do not only include sustainable fisheries resource management, but also concern the issue of how to guarantee community empowerment to get a decent standard of living and overcome poverty. Safitri et al. (2017)

revealed the need for socialization for the community on the importance of advancing the economy and instilling a modern mindset to be able to accept changes in a more advanced direction. Socialization and dedication can be a form of coastal community empowerment that must be carried out thoroughly, along with socio-industrial technology interventions according to the times.

The lives of people living in coastal areas essentially depend on marine products. It is also explained that fishing activities are the main priority of coastal communities that must become development policies and empowerment of coastal communities. There are several techniques that hinder welfare, namely the majority of coastal communities earn a living as fishermen whose fishing characteristics are traditional with minimal scientific and technological capabilities (Syatori, 2014).

In addition, unpredictable problems such as unpredictable seasons, low human resources, and the equipment used affect the welfare of coastal communities. The catches of coastal communities tend to have low economic value. It is necessary to minimize people who tend to catch marine products exploitatively without knowing the economic value of their catch, causing the business to be unable to balance economic efficiency. Therefore, empowerment of coastal communities must be done so that the market price is equal to the cost of fishing or, income is equal to the average cost of fishing (Isma, 2013).

According to Mubyarto (in Sabarisman, 2017), when compared to other community groups in the agricultural sector, fishermen (especially fishing laborers) are classified as the lowest social strata, although not all can be said to be so. Likewise, Indarti (2015) proves that this is because most family members who live in coastal areas are not economically productive. On the other hand, the main source of fishery products is not sold to consumers directly but to middlemen who have good economic conditions. In addition, the underdevelopment of coastal communities can also be seen from the limited access to capital sources and the minimal socio-economic institutional infrastructure at the village level. Similarly, the culture of market access and entrepreneurship is still focused on household management with the orientation of fulfilling daily needs.

Karawang Regency is one of the regions in West Java that has an area of 175,327 ha. Eight of the 30 sub-districts in Karawang Regency are areas where people work as fishermen, including Cilamaya Wetan, Cilamaya Kulon, Tempuran, Pedes, Cilebar, Cibuaya, Tirtajaya, and Pakisjaya (BPS Kabupaten Karawang 2022). Cilamaya Wetan and Cilamaya Kulon sub-districts have the highest number of fishing households in Karawang Regency. The area is quite potential to be developed, because it is seen from several types of fishery catch production, which has the potential for quite diverse fish and has a high economic value.

Empowerment of coastal communities is very important because welfare indicators are a measure of the success of program implementation aimed at improving the quality of human resources and addressing poverty. Until now, research on the phenomenon of social empowerment of coastal communities has been carried out by several researchers, but less writings that discuss economic empowerment and poverty of coastal communities in general, especially since there is no study on the empowerment of coastal communities in Karawang Regency specifically and considers the identification of the potential and sources of welfare of coastal communities.

Literature Review

Social welfare is a condition or state of welfare, both physical, mental and social, and not only the improvement of certain social diseases (Chalid & Yusuf, 2014). BPS measures people's welfare through eight areas, namely population, health and nutrition, education, employment, consumption levels and patterns, housing and environment, poverty, and other social (BPS Karawang, 2022).

Poverty is a condition of economic inability to meet the average standard of living of the people in an area. People can be said to be poor if they have an income much lower than the average so that they do not have the opportunity to prosper themselves (Suryawati, 2003). Welfare is influenced by poverty in accordance with the research of Anasser & Hallaq (2019); Ariza (2016).

Unemployment is a situation in which a person who belongs to the labor force wants to get a job but has not been able to get it (Sukirno, 2013). Unemployment is a macroeconomic problem that can affect people directly and is the most severe. For most people, losing a job means a decline in living standards and psychological distress. So it is not surprising that unemployment is a frequent topic in political debates and politicians often claim that the policies they offer will help create jobs (Mankiw, 2010). Research conducted by Chalid & Yusuf (2014); Ojima (2019) shows that the unemployment rate is one of the factors that can potentially affect people's welfare. According to BPS, changes in a person's income will affect shifts in spending patterns. The higher the income, the higher the non-food expenditure. Thus, the pattern of expenditure can be used as a tool to measure the level of welfare of the population, where changes in its composition are used as an indication of changes in the level of welfare. This statement supports previous research conducted by Arifin et al. (2020); Gomanee et al. (2003); Paul et al. (2014) that per capita expenditure has a positive relationship, which means that the higher the community expenditure, the higher the level of welfare.

Economic growth is one indicator of successful development in an economy. Economic growth can seek to increase production capacity to increase output, which is measured using Gross Domestic Product (GDP) and Gross Regional Domestic Product (GRDP) in a region (Adisasmita, 2013). Research conducted by Ariza (2016); Chalid & Yusuf (2014); Nurarif (2013); Reyes & Useche (2019) found that economic growth shown in the GRDP value is quite capable of affecting community welfare.

Based on this background and previous research, the purpose of this study is to analyze the factors that influence the level of social welfare of coastal communities in Karawang Regency, and solutions to improve welfare both socially and economically.

Research Method

The method used in this research is associative method because this research aims to determine the effect or relationship of two variable or more. The approach used in this research is a quantitative approach. The quantitative approach views human behavior as predictable and social reality, objective, and measurable (Yusuf, 2017).

The research was conducted in two sub-districts, namely Cilamaya Wetan and Cilamaya Kulon, Karawang Regency, considering that these two sub-districts have the highest number

of capture fishermen households and researchers also received recommendations from the local government. The scope of this research focused on a case study analyzing 5 the factors that influence the welfare of coastal communities in Karawang Regency.

The data analysis method used in this research is to use two analysis methods, namely, quantitative descriptive analysis with multiple linear regression analysis methods. This study conducted a classical assumption test before multiple linear regression analysis. The classical assumption test is carried out to determine whether or not there are classical assumption deviations from the multiple linear regression equation used.

According to Riyanto and Hatmawan (2020) Multiple linear regression analysis can be used if the number of independent variables used is more than one with one dependent variable. In this study using multiple linear regression analysis with the equation used, namely:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e \quad (1)$$

Description:

Y	: Welfare
a	: Constant
b ₁ ;b ₂ ;b ₃ ;b ₄	: Multiple regression coefficients
X ₁	: Revenue
X ₂	: Household Expenditure
X ₃	: Assets/Ownership
X ₄	: employment
e	: error

To find out which independent variable has the greatest influence on the dependent variable, the regression coefficient of each variable is used, the greater the regression coefficient value, the greater the influence of the independent variable on the dependent variable.

This study involved 174 respondents in two sub-districts, Cilamaya Wetan and Cilamaya Kulon, Karawang Regency, who participated in this study and met the requirements for further processing. All respondents were coastal communities. In general, respondents belong to the productive working age group, namely aged 17-65 years as many as 184 respondents or 94 percent. The remaining 10 respondents or 6 percent were aged between 68-80 years. This situation shows that coastal communities in Kabupaten Karawang are generally at productive age. 10 respondents or as much as 6 percent belong to the unproductive age group or seniors, but they are still working.

Discussion

Karawang Regency is in the northern part of West Java Province which is geographically located between 107° 02' - 107° 40' East Longitude and 5° 56' -6° 34' South Latitude. With an area of 1,911.09 km² most of the land is used for agriculture. The landforms in Karawang Regency are mostly in the form of relatively flat plains with variations between 0 - 5 m above sea level. Only a small part of the area is undulating and hilly with an altitude between 0-1200 m above sea level. In addition, Karawang Regency has the longest coastline on the north coast of West Java and is directly adjacent to the Java Sea. Cilamaya Kulon sub-district is part of a sub-district in Karawang Regency, bordering the Java Sea with a total of 12 villages, namely Kiara Village, Bayurkidul Village, Bayurlor Village, Langgensari Village, Sukamulya Village, Pasirukem Village, Sukajaya Village, Pasirjaya Village, Muktijaya Village, Tegalurung Village, Manggungjaya Village and Sumurgede Village. Cilamaya

Kulon sub-district has an area of 89.68 km or about 3.97% of the total area of Karawang Regency. In addition, one of the areas located along the coast of the Java Sea is Cilamaya Wetan Sub-district. Cilamaya Wetan Sub-district is located in the eastern and northern parts of Karawang Regency. Cilamaya Wetan sub-district is the result of the expansion of Cilamaya sub-district along with Cilamaya Kulon sub-district. Cilamaya Wetan sub-district has an area of 69.36 km² and a distance of 43 km from the district government center. The sub-district government center is located in Mekarmaya Village. Cilamaya Wetan sub-district is divided into 12 villages, namely Cikarang, Cikalong, Tegalsari, Tegalwaru, Mekarmaya, Cilamaya, Sukatani, Sukakarta, Rawagempol Kulon, Rawagempol Wetan, Muara Baru and Muara Lama. These two sub-districts are agricultural and fisheries areas in Karawang regency.

Based on the data obtained in the study, the factors that influence welfare are based on income, employment, household expenditure, and assets/ownership. Then the data is analyzed using multiple linear regression to test the hypothesis using the F-test and t-test, as well as calculating the coefficient of determination to find out how much the independent variable can provide the information needed to predict the dependent variable. Hypothesis test calculations were carried out using SPSS statistics 26, the following are the results of hypothesis test calculations:

1. *Coefficient of Determination (R²)*

The coefficient of determination aims at measuring how far the ability of the independent variables can provide information on the dependent variable. The coefficient of determination (R²) ranges from 0-1, a small coefficient of determination (R²) indicates that the ability of the independent variables to explain the dependent variable is very limited. The coefficient of determination in this study can be seen in the R square value seen below.

Table 1. Coefficient of Determination
Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,739 ^a	,546	,536	5,732

a. Predictors: (Constant), Employment, Expenditures Household Income, Assets/ Ownership

b. Dependent Variable: Welfare

The coefficient of determination in this study is 0.546 or 54.60%, which means that 54.60% of the variables of Employment, Household Expenditure, Income, Assets / Ownership can provide the information needed to predict the dependent variable (Welfare) while 43.60% is influenced by other variables outside this study.

2. *Simultaneous Test (F Test)*

This F test is used to determine whether the independent variables (Employment, Household Expenditure, Income, Assets / Ownership) have a joint or simultaneous effect on the dependent variable (Welfare). In the F test if the Sig value. ≥ 0.05 then H_{10} is accepted and H_{11} is rejected, but if the Sig. value < 0.05 then H_{10} is rejected and H_{11} is accepted.

Table 2. Simultaneous Test (F Test)

		ANOVA ^a				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6689.103	4	1672.276	50,889	,000 ^b
	Residual	5553.564	169	32,861		
	Total	12242.667	173			

a. Dependent Variable: Welfare

b. Predictors: (Constant), Employment, Expenditures Household, Income, Assets/Ownership

The results above show that the Sig. value of 0.000 < 0.05 then H_{10} is rejected and H_{11} is accepted, meaning that the variables of Employment, Household Expenditure, Income, Assets /Ownership together or simultaneously affect the Welfare of the Karawang coastal community.

3. Partial Test (t Test)

The t test aims to determine each independent variable (Employment, Household Expenditure, Income, Assets/Ownership) partially affects the dependent variable (Welfare). In the t test if the Sig. ≥ 0.05 then H_{20} is accepted and H_{21} is rejected, but if the Sig. value < 0.05 then H_{20} is rejected and H_{21} is accepted.

Table 3. Partial Test (t Test)

		Coefficients ^a					Collinearity Statistics	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Tolerance	VIF
		B	Std. Error	Beta				
1	(Constant)	8,186	2,260		3,623	,000		
	Income	,344	,094	,249	3,645	,000	,576	1,737
	Expenditure Household	,181	.108	.125	1,674	,096	,485	2,064
	Assets/ Ownership	,643	,097	,506	6,657	,000	,464	2,156
	Employment	-.065	,130	-.036	-.499	,619	,509	1,965

a. Dependent Variable: Welfare

Based on the results in the table above, it can be seen that the variables of capital, education, labor, length of business, and marketing have a Sig. value < 0.05, meaning that these variables affect income. There are 2 variables that have a Sig. ≥ 0.05 , namely the variables of household expenditure and employment, which means that these variables have no effect on welfare.

4. Multiple Linear Regression Model

Multiple linear regression aims to test the effect of two or more independent variables on one dependent variable. The model can be seen in the results below.

Table 4. Multiple Linear Regression Model
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	8,186	2,260		3,623	,000
Income	,344	,094	,249	3,645	,000
Expenditure Household	,181	.108	.125	1,674	,096
Assets/ Ownership	,643	,097	,506	6,657	,000
Employment	-.065	,130	-.036	-.499	,619

a. Dependent Variable: Welfare

The results above show the coefficient value from the multiple linear regression calculation results. Based on the results of these calculations, the multiple linear regression model is obtained as follows:

$$Y = 8,186 + 0,443X_1 + 0,181X_2 + 0,643X_3 - 0,65X_4 \quad (2)$$

Description:

X1	: Income
X2	: Household Expenditure
X3	: Asset/Ownership
X4	: Employment
Y	: Welfare

This means that if the value of the independent variables is equal to zero, then the constant will be 8.186. In addition, there is also one variable that has a negative contribution, namely the employment variable (-0.65). The results show that simultaneously the variables of employment, household expenditure, income and assets/ownership have a significant influence on the welfare variable. In some cases, the income and wealth variables have a positive and significant effect on welfare. Meanwhile, the household expenditure variable has a positive but insignificant effect on welfare. The employment variable is negative and has no significant effect on welfare.

From the results of the above research, the living conditions of coastal communities in Karawang Regency can be described as follows:

1. **Karawang Regency Has Quite Complete Facilities and Infrastructure.** This can be seen in Cilamaya Kulon and Wetan Sub-districts, which have complete education and health facilities in each village in Cilamaya Kolan and Wetan Sub-districts. Each village has educational facilities ranging from early childhood education (PAUD), kindergarten (TK), elementary school (SD) both public and private are found in each village. With the exception of junior secondary school education facilities, all villages have them except Cikarang Village, Cilamaya Village, Sukakarta Village and Muara Village, which do not have them. As for senior secondary school education facilities (SMU/MA/SMK), there are only nine facilities in Kecamatan Cilamaya Kulon and Wetan, with Tegalsari Village, Tegalwaru Village, Mekarmaya Village. Cilamaya Village, Sukatani Village and Muara Village having these facilities. There are no higher education facilities in Cilamaya Wetan sub-district. For health facilities, there are no hospital facilities in Cilamaya Wetan Sub-district, only health centers, maternity hospitals, polyclinics and auxiliary health centers. In addition, for worship facilities in the Cilamaya Wetan Subdistrict area, there are already available Mushola and Mosques throughout the village area here, besides that

there are worship facilities for Protestant Christian Churches and Catholic Christian Churches in Cilamaya Village, besides that there are no worship facilities for other religious communities. From the facilities and infrastructure, it can be seen that this shows that Karawang Regency has facilities and infrastructure that support the community in meeting educational and health needs. However, it is still minimal in providing employment opportunities.

2. **Working Conditions.** Work is one of the main points for coastal communities in the two sub-districts of Cilamaya Wetan and Cilamaya Kulon, Karawang Regency, to meet the needs of their families as a logical consequence of the obligation to fulfill family needs is that the greater the number of family members who are dependent, the greater the expenses that must be incurred. The occupations of the research respondents were village officials, household assistants, service bureaus, teachers, housewives, employees, fishermen, traders, farmers, students, self-employed and unemployed. From these occupational categories, it can be seen in the figure that fishermen and the self-employed are the most common occupations in this subdistrict.

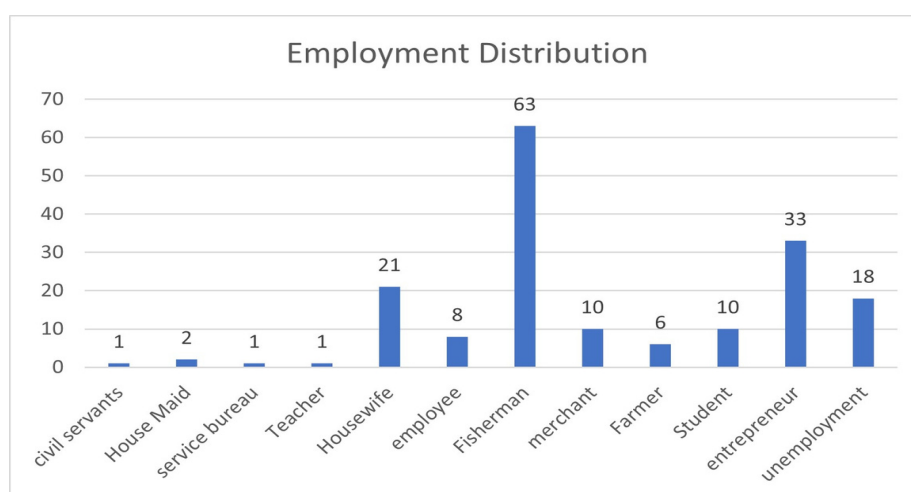


Figure 1. Occupation of research respondents

Most people work as fishermen to fulfill their needs, one of which is food. Food is needed by humans quantitatively and qualitatively. Efforts to meet food needs by fishermen are carried out traditionally or by expanding their livelihoods. Most of the food in the coastal communities of Karawang Regency is taken by themselves from the results of their daily fishing.

3. **Household Expenditure Condition.** The situation illustrates that the education level of the community in the two sub-districts of Cilamaya Wetan and Cilamaya Kulon in Karawang Regency is still very low. The educational background of a fisherman is not important to them. This means that because most of their work as fishermen is manual labor that relies more on muscle and experience, the highest level of education for them does not affect their skills in fishing. For them, the issue of the importance of education level is considered important when a fisherman wants to move to another job that is more promising. In general, they tend to go to neighboring villages. This is because their daily work is only fishing, so there is no shopping center for their daily food needs. Most people in the two sub-districts of Cilamaya Wetan and Cilamaya Kulon in Karawang Regency only spend money on food needs on big days (weddings, Christmas, and holidays). Trade and service facilities in the two sub-districts of Cilamaya Wetan and

Cilamaya Kulon in Karawang Regency are still very minimal and this is because the community lives only by fishing. The catches they get are then marketed only in neighboring villages, thus the income they get is only to meet their daily needs.

4. **Income Condition.** Based on the research, the respondent's education level compared to the income received, will experience insufficiency in financing the costs of a decent life for his family such as food, clothing and shelter needs. Because if a family is unable to meet basic needs, then the family is classified as poor. In other words, the number of family dependents is one of the factors that can affect whether a family is poor or not.
5. **Asset Condition/Ownership.** Residential housing in the two sub-districts of Cilamaya Wetan and Cilamaya Kulon in Karawang Regency has mostly used walls made of walls, however, there are still some housing units with walls made of half walls and wooden walls. Most of the floors are also basic, some are already basic and some are not yet basic.

Conclusion

The study aims to analyze the simultaneous and partial influence of the variables of employment, household expenditure, income and wealth on welfare. The results show that simultaneously the variables of employment, household expenditure, income and assets/ownership have a significant influence on the welfare variable. In some cases, the income and wealth variables have a positive and significant effect on welfare. Meanwhile, the household expenditure variable has a positive but insignificant effect on welfare. The employment variable is negative and has no significant effect on welfare.

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References

- Adisasmita, R. (2013). *Teori-Teori Pembangunan Ekonomi, Pertumbuhan Ekonomi dan Pertumbuhan wilayah*. Yogyakarta: Graha Ilmu.
- Al-Nasser, A. D., & Hallaq, S. S. Al. (2019). Impact of human poverty on the human development index in Jordan within the period 2003-2016. *International Journal of Business and Society*, 20(2), 552–562.
- Arifin, Z., Maipita, I., & Hutasukut, S. (2020). the Effect of Capital Expenditure and Economic Growth on the Human Development Index of the District City in North Sumatera. *Advances in Social Sciences Research Journal*, 7(1), 585–594. <https://doi.org/10.14738/assrj.71.7741>
- Ariza, A. (2016). Pengaruh Pertumbuhan Ekonomi Dan Belanja Modal Terhadap Indeks Pembangunan Manusia (Ipm) Dalam Perspektif Islam. *Al-Maslahah Jurnal Ilmu Syariah*, 12(1), 1–21. <https://doi.org/10.24260/almaslahah.v12i1.348>
- Belinda, Wheaton., Jordan, Waiti., Rebecca, Olive., Robin, Kearns. (2021). Coastal Communities, Leisure and Wellbeing: Advancing a Trans-Disciplinary Agenda for Understanding Ocean-Human Relationships in Aotearoa New Zealand.. *International Journal of Environmental Research and Public Health*, doi:10.3390/IJERPH18020450
- BPS. (2022). *Kabupaten Karawang Dalam Angka 2022*. Badan Pusat Statistik. Karawang.
- Chalid, N., & Yusuf, Y. (2014). Pengaruh Tingkat Kemiskinan dan Tingkat Pengangguran, Upah Minimum Kabupaten/Kota Dan Laju Pertumbuhan Ekonomi Terhadap Indeks Pembangunan Manusia di Provinsi Riau. *Jurnal Ekonomi*, 22(2), 1–12.
- Daulay, H.G. (2009). *Evaluasi perencanaan strategis dan perspektif balanced scorecard pada lembaga keuangan mikro swamitra mina (studi kasus: swamitramina brondong, lamongan)*. Bogor: Institut Pertanian Bogor.
- Fadli, Y., & Nurlukman, A. D. (2018). Government Collaboration in Empowerment? A Collaborative Framework for the Government in Empowering Coastal Communities. *Journal of Government and Civil Society*, 2(2), 145. <https://doi.org/10.31000/jgcs.v2i2.1022>
- Gomanee, K., Morrissey, O., Mosley, P., & Verschoor, A. (2003). AID , *Pro-Poor Expenditure And Welfare*. World, 1–24.
- Indarti, I. (2015). Model Peningkatan Kesejahteraan Masyarakat Pesisir Melalui Penguatan Kelembagaan Koperasi Nelayan Berkelanjutan. *Jurnal Dinamika Ekonomi Dan Bisnis*, 12(1), 63–75.
- Isma, F. (2013). *Analisa Bioekonomi Sumberdaya Alat Tangkap Ikan Pelagis Di Kepulauan Meranti Provinsi Riau*. Fakultas Pertanian Universitas Samudra Langsa Aceh.

- Lasabuda, R. (2013). Pembangunan Wilayah Pesisir Dan Lautan Dalam Perspektif Negara Kepulauan Republik Indonesia. *Jurnal Ilmiah PLATAX*, 1(2), 92–101.
<https://doi.org/10.35800/jip.1.2.2013.1251>
- Listiyati, Setyo, Palupi. (2022). Psychological wellbeing and sustainable development of coastal community: a literature review. *IOP Conference Series: Earth and Environmental Science*, doi:10.1088/1755-1315/972/1/012036
- Mardianto, F. (2018). *Strategi Pengelolaan Clungup Mangrove Conservation (CMC) Berdasarkan Hasil Relasi Kelembagaan di Pantai Clungup Dusun Sendang Biru Desa Tambakrejo Kecamatan Sumbermanjing Wetan Kabupaten Malang Jawa Timur*. Fakultas Perikanan dan Ilmu Kelautan. Malang: Universitas Brawijaya.
- Nurarif. (2013). Analisis Pengaruh Produk Domestik Regional Bruto (PDRB) Terhadap Tingkat Kesejahteraan Masyarakat Kabupaten Way Kanan Tahun 2010-2015 Perspektif Ekonomi Islam. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699. <https://doi.org/10.1017/CBO9781107415324.004>
- Ojima, D. (2019). Unemployment and Economic Development In Nigeria (1980-2017). *Advances in Social Sciences Research Journal –*, 6(1), 110–121.
- Paul, K. N., Hamdiyah, A., & Samuel, A. D.(2014). Food expenditure and household welfare in Ghana. *African Journal of Food Science*, 8(3), 164–175.
<https://doi.org/10.5897/ajfs2013.1120>
- Ratna, Ekasari., Donny, Arif., Wulan, Purnamasari., Nikma, Yucha. (2019). Analysis of Economic Empowerment of Coastal Communities Towards Prosperous Communities. *Conference: Proceedings of 1st Workshop on Environmental Science, Society, and Technology*. doi: 10.4108/EAI.8-12-2018.2283971
- Reyes, G. E., & Useche, A. J. (2019). Competitiveness, economic growth and human development in Latin American and Caribbean countries 2006-2015: A performance and correlation analysis. *Competitiveness Review*, 29(2), 139–159.
<https://doi.org/10.1108/CR-112017-0085>
- Riyanto, S., dan Hatmawan A.A. (2020). *Metode Riset Penelitian Kuantitatif Penelitian di Bidang Manajemen, Teknik, Pendidikan, dan Eksperimen*. Yogyakarta: Deepublish.
- Sabarisman, M. (2017). Identifikasi dan pemberdayaan masyarakat miskin pesisir. *Sosio Informa*, 3(200), 216–235.
- Safitri, D. P., Edison, & Kurnianingsih, F. (2017). Analisis Sound Governance : Model Kemitraan Pemerintah Daerah dan Civil Society Dalam Pemberdayaan Masyarakat Pesisir. *Jurnal Ilmu Administrasi Negara (JUAN)*, 5(2), 35– 47.
- Sukirno, S. (2013). *Teori Pengantar Makroekonomi (3rd ed.)*. Jakarta: Rajawali Pers.
- Suryawati. (2003). *Teori Ekonomi Mikro*. Yogyakarta:UPP, AMP YKPNA.

- Syatori, A. (2014). Ekologi Politik Masyarakat Pesisir (Analisis Sosiologis Kehidupan Sosial-ekonomi dan Keagamaan Masyarakat Nelayan Desa Citemu Cirebon). *Jurnal Holistik*, 15(2), 241
- Wahdaniyah, N., Jufriadi, J., & Surur, F. (2018). Strategi Pembangunan Sektor Kelautan dan Perikanan Berbasis Wilayah pada Satuan Wilayah Pengembangan (SWP) Bagian Selatan Provinsi Sulawesi Selatan. *Journal of Regional and Rural Development Planning*, 2(1), 64. <https://doi.org/10.29244/jp2wd.2018.2.1.64-73>
- Wayan, I., Yuliarta., Hayatul, Khairul, Rahmat. (2021). Peningkatan Kesejahteraan Melalui Pemberdayaan Masyarakat Pesisir Berbasis Teknologi Sebagai Upaya Memperkuat Keamanan Maritim di Indonesia. *Journal Environmental Science, Sociology*. doi: 10.26623/JDSB.V23I1.3228
- Yusuf, A.M. (2017). *Metode Penelitian: Kuantitatif, Kualitatif, dan Penelitian Gabungan*. Kencana. Jakarta.

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A Preliminary Exploration on Methodology of Image-Based Narrative

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Abstract

In the realms of community and social work, photovoice (Wang & Burris, 1997) is widely recognized as a participatory approach in action research, designed to empower individuals and specific groups by enabling them to articulate their experiences. This study adapts photovoice methods to conduct image-based narrative groups with depressed adolescents, utilizing the social practice process as research material to explore the core function of narrative in transforming depression. The findings indicate that the concept of "folds interpretation" effectively elucidates the core function of image narratives. Cristal Huang (2010) integrates Paul Ricoeur's theory of time and narrative with Gilles Deleuze's concept of folds, offering an alternative framework for image research. In this framework, images are perceived as unfolding folds, where every object within an image can be employed by the protagonist to represent and overlap with their life and current circumstances. Through this process, the protagonist unfolds "imaginary" internal folds using time and narrative. Images are thus seen as objects with folds and traces, and each narrator reveals their history and memories through their narrative. This theoretical approach intertwines time, narrative, and life, providing a platform for rewriting the future. It aligns with Fred Newman's (1991) critical perspective that "Nothing is lost here in history. All kinds of things are lost in society, but nothing is lost in history," and the notion that "history cures depression." Therefore, this study posits that image-based narrative in therapeutic work can be situated within an interpretive, social therapeutic, and praxis-oriented methodology, distinct from the photovoice approach.

Keywords: Image-Based Narrative, Methodology, Photovoice

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Introduction

In the fields of community work and social work, the technique widely employed is known as "photovoice". The origin of photovoice can be traced back to a participatory research project initiated by Caroline Wang and Mary Ann Burris in rural areas of Yunnan Province, China, in 1992, funded by the Ford Foundation. In 1997, the term "photovoice" was officially coined, distinguishing it from traditional "photo storytelling". While photo storytelling typically emphasizes using photos to tell stories, photovoice emphasizes three main aspects: first, participants use cameras to capture what they perceive as both the strengths and concerns within their communities; second, through group discussions based on these photos, awareness of important community issues is promoted along with critical dialogue; third, the voices emerging from these discussions are publicly disseminated, thereby influencing policy-making (Wang & Burris, 1997). In short, photovoice aims to "give voice" to individuals and specific groups, empowering them and fostering social reform. Photovoice is built on a three-legged theoretical stool: (a) feminisms; (b) Freire's approaches to education; and (c) participatory documentary photography (Latz, 2017). Methodologically, it is considered a participatory action research approach (Jarldorn, 2019; Taylor, 2022).

While participatory action research can be categorized within the critical paradigm, but still different from this study. This study is adjacent to the narrative and praxis (Lai, 2004) approach. By conducting research on "adolescent depression image-based Narrative", it re-engages with the critical practice orientation of methodology, and can even be traced back to Deleuze's "fold" theory and Leibniz's "monad" theory, becoming the foundation of image-based Narrative ontology and epistemology.

The purpose of this study is to distinguish the methodological differences between "photovoice" and "image-based narrative".

The Practice of Depressed Adolescents' Image-Based Narratives

By having teenagers capture images depicting their depressive experiences in the realms of family, school, and community, a reconstruction of diverse depressive expressions takes place. This study conducts the "adolescent depression image-based Narrative" research on a practice-oriented approach. Findings indicate that teenagers, in the process of reconstructing their narratives of depression, experience the following stages:

1. Undifferentiated Negative Emotion: Adolescents initially perceive depression as a chaotic amalgamation of unidentifiable life experiences and emotions.
2. Naming the Experience: Identifying and naming their experiences allows adolescents to move beyond the chaotic state.
3. Linking Emotions and Life Experiences: Establishing connections between their emotions and life experiences fosters autonomy and a sense of liberation from helplessness.
4. Social Stigma and Core Life Experiences: Core life experiences are often burdened by social stigma, which encumbers them with layers of complex vocabulary and peripheral events.
5. Collective Narrative Empowerment: When adolescents collectively present their redefined

depressive narratives through curation, they gain narrative energy. Interestingly, the most profound impact on parents comes not from their own children, but from the stories of other teenagers.

Case A is one of the subjects. His "Tree hollow" visual assignment was presented through a computer. Using the photo-elicitation interview to "contextualize" (How do the photos fit into the participants' lives?) (Tinkler, 2013) the picture, we get the following narrative:

He says his life is very simple; besides meeting basic physiological needs, his computer is his main companion, connecting him to the outside world and fulfilling his needs for knowledge and emotional interaction. He rarely goes out and seldom attends school because he suffers from insomnia and has a reversed sleep schedule.

This feeling of "disgust" refined through group interactions related to a childhood scene at his old home in Hualien. A describes this family scene: "Watching a boring TV with Grandpa and Grandma, Grandpa holding my little brother, the screen is completely blank, I don't know what's on TV, and my mind is empty. I'm not in the picture."

"Contextualize" couldn't do more here. Now, using the Deleuzian idea of "fold" (Huang, 2010), which involves folding one scene over another to produce a new result. From a hermeneutic perspective, we can use discourse to fold two parts of the overall image together, creating a fold that signifies the potential meanings embedded within it. The two parts form two signifiers, but through the agency of the viewer, these signifiers are encompassed by a segment of the whole represented by the fold. The act of folding connects different parts into a cohesive fold, presenting an interdependent whole through their shared interface. The "disgust" family scene is folded to another family image "waiting for mom". He endured the boring family activities while waiting for his mother to pick him up. However, in his consciousness, he couldn't accept that he longed so much for his mother to come. This moment of "waiting" needs to be understood within the context of an actual mother-son relationship, a perspective that can be considered using Deleuze's concept of "the interaction flow between virtual images and actual images."

In the layers of the mother-son relationship at that time, it was filled with the husband-wife relationship between his parents who worked outside and the mother-in-law and daughter-in-law relationship between his mother and grandmother. This complex set of internal family relationships erupted during a homework fright due to the tension between his learning disabilities and the school system. The grandmother's slap following his refusal to do homework seemed to be linked to his future wandering and the scattering of family relationships. A blamed himself, and this history got lost.

Case A's core experience of depression was the inability to present images that connect emotions and life experiences, thus preventing liberation from a sense of helplessness. Case A's core process of transformation in his experience of depression was not about "voicing" subjectivity and engaging in public participation but rather about engaging in a dialogue with his own "history," gradually delving into his historical context and gaining freedom.

Conclusion and Discussion

Based on Rose's (2001) research, the methods of interpreting visual objects can be categorized into six major directions: compositional interpretation, content analysis,

semiology, psychoanalysis, discourse analysis, and mixing methods research. Among these, discourse analysis views images as discourse, aiming to explore the processes of social construction and production of discourse. The depression experienced by adolescents is manifested in the images they create. These images form a clustered, yet-to-be-analyzed discourse that needs to be understood within the context of the adolescents' social (family) context and life history to be "unfolded". The "unfolded interpretation theory" aptly explains the core role of image-based Narrative found in this study. Huang (2010), combining Paul Ricoeur's theory of time and narrative with Gilles Deleuze's fold theory, suggests that if human memory is viewed as a series of images, it can be seen as texts. Each object in the image can be used by the protagonist to represent their own life and the overlap between their life and the current image. This theory interweaves time, narrative, and life to rewrite the future.

It intersects with the critical view of Fred Newman (1991) that "Nothing is lost here in history. All kinds of things are lost in society, but nothing is lost in history," and "history cure depression." Therefore, this study suggests that image-based narrative in therapeutic work can be situated within an interpretive, social therapeutic, and praxis-oriented methodology, distinct from the photovoice approach.

In Deleuze's universe, quoted from Cheng (2007), "different series (the Hume-series, the Bergson-series, the Leibniz-series, the Nietzsche-Foucault-series, and the Nietzsche-Klossowski-series) interact and interpenetrate one another. Once the nostalgia for a substantial, core self-fades away, the choreography between the subject and the world dazzles us with its infinite enfolding and unfolding". Deleuze (1985) believes that images are the driving force of thought, where images become the action of dynamic thinking. Images are no longer just phenomena but rather manifestations of material phenomena and thinking actions within a specific "episteme" context. Thus, the ontology and epistemology of image-based Narrative can be distinguished from photovoice, providing a new theoretical basis for social work.

References

- Cheng, C. J. Y. (2007). On Subjectivity in Deleuze's *The Fold*. *NTU Studies in Language and Literature*, (17), 79-100. <https://doi.org/10.6153/2007.17.03>
- Deleuze, G. (1985). *Cinéma 2: L'image-temps*. Paris: Les Éditions de Minuit.
- Deleuze, G. (1988). *Le pli - Leibniz et le baroque*. Paris: Les Éditions de Minuit.
- Huang, C. (2010). From time and narrative to the openness of fold of image. *Universitas: Monthly Review of Philosophy and Culture*, 37(4). doi:10.7065/MRPC.201004.0073
- Jarldorn, M. (2019). *Photovoice handbook for social workers: Method, practicalities and possibilities for social change*. Springer International Publishing: Imprint: Palgrave Pivot.
- Lai, C.-P. (2004). *Zi wo xu shuo tan jiu yu sheng ming zhuan hua—Fa sheng zai Lu Di she da de xue xi gu shi [Self-narrative inquiry and life transformation—Learning stories from Lu Di Community University]* (Doctoral dissertation, Fu Jen Catholic University). Taiwan Thesis and Dissertation Knowledge Value-Added System.
- Latz, A. O. (2017). *Photovoice research in education and beyond: A practical guide from theory to exhibition*. Routledge.
- Newman, F. (1991). *The myth of psychology*. New York: Castillo International.
- Nykiforuk, C. I., Vallianatos, H., & Nieuwendyk, L. M. (2011). Photovoice as a Method for Revealing Community Perceptions of the Built and Social Environment. *International journal of qualitative methods*, 10(2), 103–124.
- Rose, G. (2001). *Visual methodologies*. India: SAGE Publications.
- Taylor, P. (2022). Enduring and distancing: A grounded theory and photovoice study about women's help-seeking for suicidality in the wake of intimate partner violence. *Journal of Family Violence*. Advance online publication.
- Tinkler, P. (2013). *Using photographs in social and historical research*. Thousand Oaks, CA: Sage.
- Wang, C., & Burris, M. A. (1997). Photovoice: concept, methodology, and use for participatory needs assessment. *Health education & behavior: the official publication of the Society for Public Health Education*, 24(3), 369–387.

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***Evolving Environmental Immigration Policies Through Technological Solutions:
A Focused Analysis of Japan and Canada in the Context of COVID-19***

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Abstract

This article examines technological solutions that enhance the effectiveness of environmental immigration policies in Japan and British Columbia, Canada. The study identifies problems related to ecological immigration policies in these regions and explores effective technological interventions. Japan and British Columbia (BC) were selected due to their unique environmental challenges and innovative technological implementations. Advanced technologies such as satellite imagery, mobile applications, Geographic Information Systems (GIS), and blockchain have demonstrated success in integrating disaster management and immigration processing. While Japan and BC share similarities in experiences, challenges, and technological solutions, they also exhibit crucial differences in governance approaches and the effectiveness of these solutions. This underscores the need for context-specific strategies. Technological solutions for environmental immigration policies are essential for resilience and responsiveness. Implementing these technologies will enable authorities to effectively prepare for and mitigate the impacts of ecological catastrophes and pandemics. The findings highlight the necessity of adaptive, context-specific approaches in developing and implementing policies.

Keywords: Environmental Immigration Policies, Technological Solutions, Climate Change, COVID-19, Japan

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1. Introduction

1.1 Background and Rationale

For the first time in human history, the 21st century faces the intersecting factors of climate change and global pandemics (Berardi et al., 2022). These natural calamities, such as earthquakes, typhoons, floods, wildfires, and heatwaves, call for an immediate review of environmental migration policies by world policymakers (Harima, 2022). Literature asserts that introducing technological solutions, specifically to Japan and BC, enhances the current regime of environmental immigration policy productively (Ohta et al., 2024; Winter, 2024).

The importance of environmental immigration policies has come to the fore with the escalating effects of climate change and global pandemics (Edison, 2023; Koskela & Beckers, 2024). Climate-driven disasters are increasing in intensity and frequency, while pandemics introduce added challenges for affected populations. Well-conceived and flexible immigration policies are essential in guaranteeing the safety and health of migrants (Chatterji et al., 2023; Naik, 2024). These policies act as frameworks for managing displacement through natural calamities by providing support and resources to affected citizens (Irudaya Rajan & Arcand, 2023) and as critical tools for reducing pressure in vulnerable areas by facilitating planned relocations to mitigate long-term effects of climate change (Walton-Roberts, 2023). The effectiveness of these policies can be further enhanced through technology solutions that make disaster management effective and resilient, extending timely support and ensuring the comprehensive needs of the displaced (Collins & Friesen, 2022; Mello et al., 2023).

The geographical locations of Japan and BC expose them to unique environmental challenges (Biswas et al., 2023; Saraswati et al., 2024). As an island nation, Japan is highly prone to earthquakes, typhoons, and floods, which historically result in immense displacement, necessitating well-coordinated emergency response and immigration policies (Garcia-Sitton, 2024; Lacroix et al., 2020). Meanwhile, BC faces wildfires, floods, and heatwaves (Harima, 2022; Missbach & Stange, 2023). The frequency and magnitude of these incidents have grown due to climate change, putting disaster management and migration systems under severe pressure. Policies in BC include measures for emergency response and support of the displaced, but implementation problems persist, similar to those in Japan (Mello et al., 2023; Rychlowska et al., 2015).

1.2 Research Objectives

The primary objectives of this research are:

RQ 1: To evaluate the integration of satellite imagery, mobile applications, GIS, and blockchain in environmental immigration policies

RQ 2: To conduct a comparative analysis between Japan and BC, focusing on the effectiveness and integration of these technologies

2. Literature Review

2.1 Theoretical Framework

Environmental immigration refers to the flow of individuals compelled by environmental factors, including natural disasters, climate change, and ecological degradation (Istad, 2023;

Muranaka, 2024). The United Nations High Commissioner for Refugees (UNHCR) refers to "climate refugees" when residents are forced to leave due to catastrophic environmental disturbances. However, international law offers minimal protection for climate refugees, posing significant challenges for policymakers. Suva et al. (2022) explain that environmental migration occurs in the context of economic vulnerability, social networks, and adaptive capacities. Analysts highlight that environmentally-induced factors interact with socio-economic and political contexts in migration decisions (Chamie, 2020; Portes & Rumbaut, 2024). The integration of GIS technology into disaster management significantly improves responses to these migrations, though gaps remain in fully utilizing such solutions. This article aims to address these gaps by examining various technological interventions for environmental immigration (Leung et al., 2023).

Technological advancements provide significant tools for handling disasters and implementing immigration policies, as noted by Ray (2022). Key technologies include satellite imagery, GIS, mobile applications, and blockchain (Walton-Roberts, 2023). Satellite imagery helps evaluate environmental changes and respond promptly to disasters (Dewey-Lambert et al., 2021; Kumar & Ojha, 2024). GIS integrates data from various sources to create descriptive maps useful for disaster management planning and decision-making (Rishworth et al., 2024). Blockchain technology ensures secure migrant documentation (Edison, 2023). These technologies promise better management of environmental migration and increased resilience for affected communities (Adhikari & Plotnikova, 2023).

2.2 Historical Context

Immigration policies in Japan and BC have evolved significantly, influenced by environmental and socio-political contexts (Chamie, 2020; De Haas et al., 2018). Traditionally, Japanese immigration policies were restrictive, primarily recognizing skilled and technical workers for economic purposes. However, recent frequent natural disasters have prompted Japan to address environmental migration issues (Shah et al., 2023). Successive policies have incorporated disaster reduction and response management systems, using technologies such as GIS and mobile applications. In contrast, BC follows an open and inclusive immigration framework, emphasizing multiculturalism and humanitarian support for environmental refugees (Biagioni et al., 2024; Peters et al., 2021). BC policies provide emergency housing, financial aid, and integration programs for rebuilding migrants' lives (Rishworth et al., 2024; Winter, 2024; Parzniewski, 2021; Rychlowska et al., 2015).

Recent natural calamities have significantly impacted immigration policies in both regions. The 2011 earthquake and tsunami in Tōhoku, Japan, spurred a reconsideration of disaster management strategies (Gafer et al., 2022). Modern technologies for accessing and disseminating disaster information were introduced, marking a significant policy shift (Brotherhood, 2020; Triandafyllidou & Yeoh, 2023). These policies now better support displaced residents with temporary housing and financial assistance, showing a dynamic approach toward environmental migration (Matsuoka et al., 2022).

Similarly, the devastating 2017 and 2018 fire seasons in BC prompted policy changes aimed at improving emergency responses to disaster-affected communities. BC has successfully fine-tuned the use of GIS and mobile applications for disaster tracking and communication (Hollifield & Foley, 2022a; Cerna & Chou, 2023). These technological applications are integral to BC's strategy of building resilience and providing timely support to environmental migrants.

Combining the discussions of Japan and BC emphasizes the critical role of technology in facilitating environmental migration (Hollifield & Foley, 2022a). Advanced technological solutions are part of the policies in both regions, though their approaches differ due to unique ecological and socio-political contexts (Cerna & Chou, 2023). Japan integrates technologies, predictive models, and blockchain for secure migrant documentation as part of its national response to recurrent natural disasters and the COVID-19 pandemic (Ang & Tiongson, 2023). In contrast, BC focuses on GIS and mobile apps for disaster response, reflecting its humanitarian view and commitment to multiculturalism (Suva et al., 2022). Adaptive, contextualized approaches are essential for solving complex problems associated with environmental migration (Brotherhood, 2020; Triandafyllidou & Yeoh, 2023). Such approaches ensure disaster preparedness and resilience in adapting to evolving environmental threats (Sabzalieva et al., 2022; Hollifield & Foley, 2022a).

2.3 Current Technological Solutions

- Satellite imagery provides high-resolution real-time changes in the environment, playing a vital role in disaster assessment (Shah et al., 2023). This technology allows for the early detection of disaster-prone areas and facilitates follow-up on damages and relief efforts (Zhan et al., 2022). In Japan, satellite imagery is used to monitor earthquakes, typhoons, and floods. For example, in 2020, it provided insights into the magnitude of floods, aiding in rescue operations (Ang & Tiongson, 2023; Zhan et al., 2022). Similarly, in BC, satellite imagery is crucial for monitoring wildfires and floods, enhancing disaster response and management (McAuliffe & Triandafyllidou, 2021).
- Mobile applications have significantly improved emergency communication and coordination (Missbach & Stange, 2023; Tamine, 2022). These applications enable prompt communication among government agencies, rescue teams, and individuals (Biagioni et al., 2024; Choe, 2024). In Japan, mobile applications provide early warnings, evacuation routes, and coordinated rescues. Elejalde et al. (2024) noted that these applications increased the efficiency of operational responses during the 2021 typhoons. BC also utilizes mobile applications for emergency communication, especially during wildfires and floods. These apps provide updates on disaster status, evacuation orders, and safety measures, ensuring timely and accurate information reaches the affected population (Palattiyil et al., 2022; Abu-Laban & Nath, 2020).
- GIS synthesizes various data sources into detailed maps for tracking and managing disasters (Edison, 2023; Winter, 2024). Irudaya Rajan and Arcand (2023) highlighted that GIS technology empowers the analysis of spatial information, monitoring disaster processes, and preparing response efforts. In Japan, GIS is used to monitor earthquakes and typhoons and assess flood hazards (Patel & Dev, 2023). According to Sabzalieva et al. (2022), GIS aids decision-making by providing detailed maps that identify critical response areas. In BC, GIS is employed to monitor natural disasters such as wildfires and floods, facilitating emergency planning and response (Sorrell & Ferris, 2021). Schinnerl (2021) demonstrated that GIS improves disaster response efficiency by predicting wildfire spread and estimating flood risk, leading to better support for affected populations (Rychlowska et al., 2015; Xia, 2022).
- Blockchain technology offers transparent, secure ways of processing migrant documentation (Hollifield & Foley, 2022b; Saraswati et al., 2024). As a decentralized, tamper-proof system, blockchain maintains data integrity with minimal fraud risk

(Barajas, 2023; Chatterji et al., 2023; Gao, 2023). In Japan, blockchain technology has been applied to enhance migrant document processing, particularly during the COVID-19 pandemic, ensuring secure and accessible records for immigration procedures (Suva et al., 2022; Kwak et al., 2024). BC is evaluating blockchain for similar applications to provide more secure and efficient document handling for migrants (Shah et al., 2023). Garcia-Sitton (2024) emphasized that blockchain facilitates safe data sharing and coordination among stakeholders, integrating various information sources to improve immigration processes and ensure timely support for migrants (Cerna & Chou, 2023; Irudaya Rajan & Arcand, 2023).

3. Methodology

This study analyzes the integration of technological solutions in the environmental immigration policies of Japan and BC through a comparative analysis. The research relies on data collected from a comprehensive literature review of policy documents, academic articles, and case studies related to disaster management and environmental migration in the two regions. The analysis will assess the effectiveness of GIS, mobile applications, predictive models, and blockchain technology, examining their roles in policy formulation, implementation, and outcomes. Comparing the approaches taken in Japan and BC will highlight best practices, gaps, and context-specific strategies for strengthening policy resilience and responsiveness to environmental challenges.

3.1 Research Design

This study employs Qualitative Comparative Analysis (QCA) with secondary data to analyze the role of technological solutions in the development of environmental immigration policies in Japan and BC. QCA is particularly suited for this research because it can cope with complex phenomena and identify patterns across multiple cases. It systematically compares the operations of technological integrations across different policy frameworks, providing insights into their effectiveness and nuances.

The research design is based on secondary data from various policy documents, academic literature, and case studies related to disaster management and environmental migration. This approach ensures a comprehensive and in-depth study while mitigating some limitations associated with primary data collection. Utilizing secondary data provides a rich context for comparative analysis, enabling a systematic comparison of how different policy contexts integrate various technologies. This method aims to evaluate best practices, identify gaps, and develop strategies for effective environmental immigration policies.

3.2 Data Collection and Analysis

- The first step involves conducting a Systematic Literature Review (SLR) to comprehensively review existing literature on technological solutions in environmental immigration policies. The SLR methodology ensures the process is comprehensive, unbiased, and reproducible by searching all relevant sources for candidate studies, theories, and findings. The complete procedure of data screening is illustrated in Figure 1 as a PRISMA flowchart. The database search yielded 189 records, with 140 unique records remaining after duplicates were removed. Of these, 78 records were screened, and 111 full-text articles were assessed for eligibility. Quality assessment resulted in 72 studies included in the systematic review, with 117 studies excluded for documented

reasons. Fifty-eight studies were included in the qualitative synthesis, ensuring a thorough and unbiased selection of relevant studies.

- Secondary data will be collected from numerous other sources to provide broad exposure to the Secondary data will be collected from various sources to provide a broad understanding of the current state of technological solutions in environmental immigration policies. These sources include policy documents, governmental.
- The comparative analysis framework involves identifying variables related to policy effectiveness, internal technological integration, and disaster management efficiency; analyzing these variables between Japan and BC to capture the similarities and differences in their application; and measuring the outcomes of technological solutions concerning policy effectiveness, integration, and disaster management efficiency to determine the overall impact.

3.3 Evaluation Criteria

The assessment of technological solutions for environmental immigration policies will focus on policy effectiveness, integration of technology, and disaster management efficiency. Policy effectiveness evaluates how well policies achieve their objectives, support affected populations, facilitate planned relocations, and incorporate health protocols during pandemics. Indicators include the clarity and comprehensiveness of policy objectives, the alignment of technological solutions with policy goals, and the tangible effects on affected populations. Technological integration assesses how smoothly solutions are embedded within existing frameworks and operational processes, considering acceptance and use levels, interoperability with existing systems, and organizational preparedness to implement and manage technologies. Disaster management efficiency examines the timeliness and accuracy of disaster assessments, the effectiveness of mobile applications for communication and coordination, the security and transparency of migrant documentation using blockchain, and overall improvements in disaster preparedness, response, and resilience through technology integration. This evaluation will demonstrate how technologies can enhance the implementation of environmental immigration policies, identifying lessons learned and areas for improvement to develop more effective and resilient policy settings in Japan and BC.

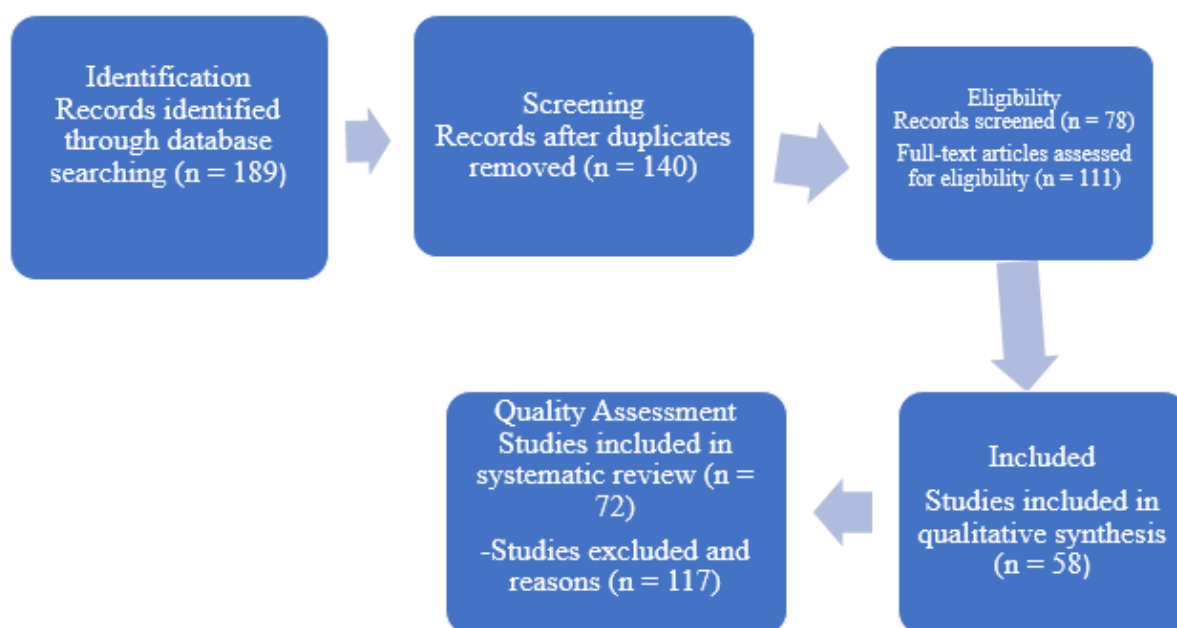


Figure 1: PRISMA Flowchart: Self Made/Assessed

4. Japan

4.1 Current Immigration Policies

Japan's immigration policy for environmental refugees focuses on managing forced displacements due to frequent natural disasters such as earthquakes, typhoons, and floods (Matsuoka et al., 2022). These policies emphasize prompt response and recovery to safeguard the population and enhance welfare (Gurung et al., 2021). They include provisions for emergency shelters, reimbursement assistance, and mitigation relocation (Kwak et al., 2024). Additionally, Japan's disaster risk reduction approaches aim to mitigate the spread of vulnerabilities among affected populations (Harima, 2022). However, these policies face challenges in adopting advanced technologies and addressing emerging environmental threats (Lacroix et al., 2020; Leung et al., 2023).

Recently, Japan has revised its immigration rules to better address frequent and intense natural disasters (Dewey-Lambert et al., 2021). This includes the use of satellite imagery, predictive models developed through artificial intelligence (AI) and machine learning, and mobile applications for real-time communication during emergencies (Muranaka, 2024). The COVID-19 pandemic further prompted Japan to utilize blockchain technology for secure migrant documentation, ensuring data integrity amid health and security challenges (Cerna & Chou, 2023). These changes aim to enhance Japan's ability to manage calamities and ensure that immigration policies are disaster-resilient (Peters et al., 2021).

4.2 Case Studies

- In 2020, severe floods in Japan displaced thousands of residents. Istad (2023) and Mensah and Williams (2022) noted that the government used satellite imagery to evaluate the extent of the damage effectively. This technology facilitated real-time monitoring, allowing for organized resource allocation and evacuation efforts (Hollifield & Foley,

2022a). The data obtained through satellite images enabled a speedy assessment of the damage, providing timely support and relief to the affected populations (Suva et al., 2022; Sabzalieva et al., 2022). This highlights the importance of technologies in disaster management to enhance response effectiveness (Sorrell & Ferris, 2021).

- The 2021 typhoons in Japan demonstrated the potential of AI and machine learning in disaster prediction. Elejalde et al. (2024) explained that these technologies, supported by extensive datasets on weather patterns and past typhoon data, helped predict the pathways and intensities of upcoming typhoons. This enabled authorities to issue early warnings, arrange evacuations, and coordinate pre-mobilization efforts (Irudaya Rajan & Arcand, 2023). The models identified potential impact locations, ensuring sensitive and coordinated response efforts (Collins & Friesen, 2022; Patel & Dev, 2023). AI and machine learning significantly improved preparedness and mitigation of adverse effects on communities (Saraswati et al., 2024).
- The 2022 earthquake in Japan underscored the critical role of mobile applications in disaster communication. Ray (2022) and Brotherhood (2020) highlighted that the government deployed several mobile applications to provide real-time information and connect authorities with the public. These apps offered emergency alerts, evacuation routes, shelter locations, and first aid tips (Santos & Mourato, 2022). Users could report their status and request assistance, facilitating coordinated recovery operations (Esses et al., 2021). The widespread use of mobile technology during the earthquake response demonstrated its effectiveness in timely and efficient information dissemination (Dewey-Lambert et al., 2021; Koskela & Beckers, 2024). This case also highlighted the need for continued development and deployment of mobile applications within disaster management frameworks (Chamie, 2020).
- The COVID-19 presented new challenges for Japan's immigration policies, particularly in securely processing migrant documentation. Mensah and Williams (2022) noted that Japan applied blockchain technology to enhance the security and transparency of migrant records. Blockchain ensured that sensitive information was stored on a decentralized, tamper-proof ledger accessible only to authorized personnel (Schinnerl, 2021). This facilitated easier document verification, streamlined immigration processes, and ensured compliance with health protocols (Shah et al., 2023). The use of blockchain during the pandemic underscored its potential for improving efficiency and security in migration processes, suggesting further policy enhancements (Rishworth et al., 2024).

Through these case studies, it is evident that technological solutions in Japan encompass a range of applications, from disaster assessment using satellite images to AI-driven disaster predictions, mobile applications for emergency communication, and blockchain for secure documentation (Brunner, 2022; Edison, 2023). These technologies are shaping disaster management and policy implementation, demonstrating that integrating advanced technologies into environmental immigration policies enhances their resilience and effectiveness (De Haas et al., 2018; Sabzalieva et al., 2022).

5. BC, Canada

5.1 Current Immigration Policies

Policies in BC regarding the immigration of environmental refugees emphasize disaster relief mechanisms for natural disasters such as avalanches, wildfires, earthquakes, landslides, and floods (Cruz et al., 2020). These policies adopt a community-based disaster risk reduction framework, which emphasizes public awareness campaigns and reducing exposure to environmental hazards (Kwak et al., 2024; Sabzalieva et al., 2022). Despite these efforts, BC, like Japan, faces significant challenges due to the rapidly changing nature of environmental threats, necessitating advanced technological solutions and adaptive policies (Biagioni et al., 2024).

Recent reforms in BC's immigration policies address the increasing frequencies and intensities of natural disasters. Walton-Roberts (2023) highlighted that these reforms include integrating advanced technologies for disaster prediction and management (Biswas et al., 2023). Mobile applications have been developed to streamline emergency communication and real-time coordination during crises (Matsuoka et al., 2022). Additionally, blockchain technology has been adopted for migrant documentation to enhance security and efficiency, particularly in response to health and security hazards like the COVID-19 pandemic (Soroka, 2022). These technological enhancements aim to make BC's immigration policies ecologically resilient and improve the province's readiness and response capabilities (Harima, 2022).

5.2 Case Studies

- The 2019-2020 wildfire season in BC, one of the worst on record, highlighted the importance of Geographic Information System (GIS) solutions for real-time disaster tracking. Garcia-Sitton (2024) explained that GIS technology provides comprehensive and current information on wildfire movement, aiding emergency services in resource distribution and decision-making (Biagioni et al., 2024; Muranaka, 2024). This technology also enhances coordination among agencies, ensuring timely and accurate communication (Leung et al., 2023). The integration of GIS within BC's emergency management framework proved vital for situational awareness and response during the wildfire crisis (Esses et al., 2021; Rychlowska et al., 2015).
- The 2021 floods in BC caused significant infrastructure damage and community displacement. Peters et al. (2021) noted that satellite imagery was crucial in assessing the disaster's scale. High-resolution images provided detailed overviews of the affected areas, facilitating prompt allocation of rescue services and relief materials (Dewey-Lambert et al., 2021). This technology also supports long-term planning and rehabilitation by offering valuable insights into flood patterns and vulnerabilities, informing future policy adjustments (Biswas et al., 2023; Zhan et al., 2022).
- The 2022 heat dome event over BC brought record-setting temperatures, leading to health crises and numerous deaths. Mensah and Williams (2022) highlighted that BC used customized mobile applications for emergency communication to address this challenge. These applications provided real-time updates on heat conditions, health advisories, and cooling center locations (Peters et al., 2021). They also facilitated direct communication, allowing residents to report emergencies, receive help, and learn about protective

measures in a timely manner (Brunner, 2022; Istad, 2023). The use of mobile applications proved essential for public safety during the heat dome emergency, ensuring critical information was promptly and efficiently disseminated (Kwak et al., 2024; Saraswati et al., 2024).

- The COVID-19 pandemic posed unprecedented challenges for immigration processes in BC and globally. Sorrell and Ferris (2021) noted that BC adopted blockchain technology to securely manage migrant documentation. Blockchain's decentralized and immutable nature provided a safe platform for processing and verifying migrant documents, preventing fraud and tampering (Walton-Roberts, 2023). This technology fast-tracked documentation processes, ensuring the verification of migrant credentials and integrating health protocols to comply with COVID-19 safety measures (Schinnerl, 2021). The adoption of blockchain technology improved document processing efficiency, enhancing the security and reliability of BC's immigration system at a critical time (Cerna & Chou, 2023).
- In summary, British Columbia has effectively integrated advanced technological solutions to address environmental challenges and respond to natural disasters. These case studies illustrate how the inclusion of technology in disaster management and migration policies can offer best practices applicable to other regions facing similar challenges (Collins & Friesen, 2022; Shah et al., 2023). BC continues to innovate and adapt, striving to build resilient and efficient systems capable of supporting displaced populations while mitigating environmental crises (Gurung et al., 2021; Patel & Dev, 2023).

6. Comparative Analysis

6.1 Similarities

Both Japan and BC face significant environmental challenges due to their geographical locations, with Japan being prone to earthquakes, typhoons, and floods, and BC experiencing wildfires, floods, and heatwaves (De Haas et al., 2018; Ohta et al., 2024). These natural disasters have led to considerable migration and necessitate robust disaster control and immigration strategies. The increasing frequency and severity of climate change events further complicate timely and effective responses in both regions (Ray, 2022).

Advanced technological solutions have been incorporated into disaster response management and immigration policies in both Japan and BC (Garcia-Sitton, 2024). Technologies such as GIS, satellite imagery, mobile applications for emergency communication, and blockchain for secure migrant documentation enhance disaster response and management by providing real-time data, improving communication, and maintaining integrity and efficiency in the immigration process (Gao, 2023; Muranaka, 2024; Rishworth et al., 2024).

Both regions face similar gaps in the integration of advanced technologies. Adhikari and Plotnikova (2023) noted that the adoption and implementation of these technologies are not uniform across different administrative levels. Challenges related to resources, technical expertise, and interoperability often result in non-seamless integration of technological solutions within policy frameworks (Edison, 2023; Brunner, 2022; Mensah & Williams, 2022). Additionally, policies in both regions require regular updates to keep pace with technological advancements and evolving environmental threats (Naik, 2024; Walton-Roberts, 2023).

6.2 Differences

Despite facing significant environmental challenges, the nature and context of these challenges differ between Japan and BC. Japan requires exceptional preparedness and response techniques for earthquakes and typhoons due to its geographical location (Soroka, 2022). Conversely, BC's challenges are more related to wildfires and heatwaves, necessitating distinct adaptation and mitigation measures. These unique challenges result in different focuses and designs in their respective environmental immigration policies (Lacroix et al., 2020; Sabzalieva et al., 2022).

The technological implementation also differs between the two regions. Japan has a more centralized structure, with significant involvement from the national government in coordinating technological integration into disaster management mechanisms (Hollifield & Foley, 2022a). In contrast, BC's structure is more decentralized, with substantial activity occurring at the provincial and local government levels (Peters et al., 2021). This difference affects the efficiency and effectiveness of technological deployments and integrations in each region.

The effectiveness of technological solutions varies between Japan and BC. Technologies like AI and machine learning for disaster prediction show great promise in Japan for improving preparedness and response capabilities (Berardi et al., 2022). However, challenges such as public acceptance and integration into existing systems persist (Parzniewski, 2021). In BC, GIS and mobile applications have been effectively used for real-time disaster management and communication (Shah et al., 2023). Nevertheless, issues such as resource allocation and equitable access to technology for different communities remain problematic (Shah et al., 2023).

7. Discussion

7.1 Implications of Findings

The current research findings play a significant role in developing future immigration policies, particularly those addressing environmental migration (Hollifield & Foley, 2022a). Technological solutions that streamline disaster management and immigration processes must be prioritized in investments in technology and innovation to effectively address the significant challenges posed by climate change and pandemics (Santos & Mourato, 2022; Winter, 2024). Integrating technology into immigration frameworks can fundamentally enhance system efficiency, transparency, and security (Missbach & Stange, 2023; Patel & Dev, 2023). Lessons learned from successful implementations in regions like Japan and British Columbia can better shape the design and execution of policies in other jurisdictions facing similar environmental threats (Smith & Wesselbaum, 2020). Collectively, these findings support an adaptive, forward-looking approach to immigration policy development, positioning technology as a primary driver of resilience and responsiveness (Istad, 2023).

Beyond the case studies in Japan and British Columbia, the findings have broader implications for managing climate migration worldwide (Choe, 2024; Triandafyllidou & Yeoh, 2023). Integrating technological solutions provides invaluable lessons and best practices applicable globally (Esses et al., 2021). As environmental threats grow worldwide, there is an increasing need for policies and strategies to manage migration induced by climate change (Matsuoka et al., 2022). This study identifies key success factors for integrating

technological solutions, offering valuable lessons for global application (Hollifield & Foley, 2022b). Governments and international organizations should consider environmental disaster preparedness, response, and post-disaster recovery (Chamie, 2020). Additionally, regional cooperation and knowledge exchange can foster the global adoption of innovative strategies for climate migration management, promoting resilience and sustainability (Biswas et al., 2023).

7.2 Limitations

One limitation of this study is its reliance on secondary data sources, which may have limitations in terms of reliability and consistency (Abu-Laban & Nath, 2020; Cerna & Chou, 2023). Although efforts were made to ensure quality and relevance in selecting sources, the inherent constraints of secondary data influence the depth and comprehensiveness of the analysis (Gao, 2023; Walton-Roberts, 2023). Additionally, using qualitative comparative analysis based on secondary data limits the scope of findings and the ability to draw causal conclusions (Leung et al., 2023). Future research could elaborate on this approach by combining it with primary data collection methodologies to bring out more realistic and specific dynamics of the effects of technological solutions in environmental immigration policies (Chatterji et al., 2023; Lacroix et al., 2020).

Another limitation is the potential biases in secondary data sources, such as selective data, publication bias, and the perspectives of data creators or researchers (Kumar & Ojha, 2024; Tamine, 2022). Although rigorous checks were conducted during the review and selection process to minimize biases, secondary data sources remain subjective and potentially incomplete (Barajas, 2023; McAuliffe & Triandafyllidou, 2021; Portes & Rumbaut, 2024). Interpretation of findings should be transparent and mindful of potential biases and limitations that could affect the validity and reliability of research outcomes (Hollifield & Foley, 2022a; Ray, 2022). Triangulating findings from multiple data sources and different viewpoints can help reduce bias and enhance the robustness of the analysis (Kwak et al., 2024).

8. Conclusion

This research on technological solutions for environmental immigration policies in Japan and BC, Canada, highlights several critical points. First, both regions face significant environmental challenges due to natural disasters and climate change, necessitating robust immigration policies (Matsuoka et al., 2022). Second, integrating modern technologies such as satellite imagery, mobile applications, GIS, and blockchain can significantly improve disaster management and immigration processes (Suva et al., 2022). Third, while Japan and BC share similar technological solutions and approaches, the effectiveness of these implementations varies, underscoring the importance of context-specific strategies (Chatterji et al., 2023).

The findings emphasize the necessity of incorporating technological solutions into environmental immigration policies to enhance resilience and responsiveness. Technologies like satellite imagery for forecasting migration trends, mobile applications for real-time communication, GIS for disaster management, and blockchain for secure document processing streamline administrative processes, improve data accuracy and transparency, and facilitate communication and coordination among stakeholders (Gurung et al., 2021). These

interventions enable governments to better prepare for and mitigate the impacts of environmental catastrophes and pandemics (Hollifield & Foley, 2022a).

Future research should focus on several key areas to further develop the understanding and effectiveness of technological solutions for environmental immigration policies. Longitudinal studies are needed to track the implementation and outcomes of techno-fix interventions over time, providing insights into their long-term impacts and effectiveness (Ray, 2022). Comparative analysis across different regions and countries facing environmental issues can reveal cross-cutting trends and best practices (Esses et al., 2021). Additionally, interdisciplinary research that integrates insights from environmental sciences, public policy, and technology innovations can offer holistic approaches to addressing complex migration challenges in a changing climate and during pandemics (Biswas et al., 2023).

By continuing to explore and innovate in this field, policymakers and researchers can contribute to developing more adaptive, equitable, and effective environmental immigration policies in an increasingly interconnected and dynamic world (Chamie, 2020).

References

- Abu-Laban, Y., & Nath, N. (2020). Citizenship, multiculturalism, and immigration: Mapping the complexities of inclusion and exclusion through intersectionality. *The Palgrave handbook of gender, sexuality, and Canadian politics*, 507-527.
- Adhikari, R., & Plotnikova, E. (Eds.). (2023). *Nurse Migration in Asia: Emerging Patterns and Policy Responses*. Taylor & Francis.
- Ang, A., & Tiongson, E. R. (2023). Philippine Migration Journey: Processes and Programs in the Migration Life Cycle. *Background paper prepared for World Development Report 2023*.
- Barajas, J. M. (2023). Perceptions, people, and places: influences on cycling for Latino immigrants and implications for equity. *Journal of Planning Education and Research*, 43(1), 196-211.
- Berardi, C., Lee, E. S., Wechtler, H., & Paolucci, F. (2022). A vicious cycle of health (in) equity: Migrant inclusion in light of COVID-19. *Health Policy and Technology*, 11(2), 100606.
- Biagioni, B., Annesi-Maesano, I., D'Amato, G., & Cecchi, L. (2020). The rising of allergic respiratory diseases in a changing world: from climate change to migration. *Expert Review of Respiratory Medicine*, 14(10), 973-986.
- Biswas, U. N., Leach, B., Jijina, P., & Niraula, A. (2023). Lived Experiences of Skilled Indian Women Immigrants (SIWI) Navigating the COVID-19 Pandemic: Immigration Trajectories to Canada. *Journal of International Migration and Integration*, 1-25.
- Brotherhood, T. (2020). *Considering agency in the education-migration nexus: A temporal analysis of structure-agency relations with student-migrants* (Doctoral dissertation, University of Oxford).
- Brunner, L. R. (2022). *The ethics of education: Canada's higher education-migration nexus* (Doctoral dissertation, University of British Columbia).
- Cerna, L., & Chou, M. H. (2023). Talent migration governance and the COVID-19 pandemic: Comparing Germany and Singapore. *Journal of Immigrant & Refugee Studies*, 21(1), 73-88.
- Chamie, J. (2020). International migration amid a world in crisis. *Journal on Migration and Human Security*, 8(3), 230-245.
- Chatterji, M., Luterbacher, U., Fert, V., & Chen, B. (Eds.). (2023). *International Migration, COVID-19, and Environmental Sustainability*. Emerald Publishing Limited.
- Choe, D. (2024). Challenges in psychological wellbeing for Korean newcomer immigrant adolescents during the COVID-19 pandemic. *Current Psychology*, 1-14.

- Collins, F. L., & Friesen, W. (2022). Excess aspirations: Migration and urban futures in post-earthquake Christchurch. *Urban Studies*, 59(16), 3253-3270.
- Cruz, C. J. P., Ganly, R., Li, Z., & Gietel-Basten, S. (2020). Exploring the young demographic profile of COVID-19 cases in Hong Kong: Evidence from migration and travel history data. *PLoS One*, 15(6), e0235306.
- De Haas, H., Natter, K., & Vezzoli, S. (2018). Growing restrictiveness or changing selection? The nature and evolution of migration Policies1. *International Migration Review*, 52(2), 324-367.
- Dewey-Lambert, P., Gattinger, M., Hobbs, J., Kerr, W., Lilly, M., & Moroz, A. (2021). *Canada's Fluid Borders: Trade, Investment, Travel, Migration*. University of Ottawa Press.
- Edison, E. (2023). Exploring the Migration Policies and Dependency Patterns among G20 Nations: From Global Financial Crisis to Global COVID-19 Crisis. *India & the G20: Legacy & Prospects for Multilateralism amidst a Polycrisis*, 109.
- Elejalde, E., Ferres, L., Navarro, V., Bravo, L., & Zagheni, E. (2024). The social stratification of internal migration and daily mobility during the COVID-19 pandemic. *Scientific Reports*, 14(1), 12140.
- Esses, V. M., Sutter, A., Bouchard, J., Choi, K. H., & Denice, P. (2021). North American attitudes toward immigrants and immigration in the time of COVID-19: the role of national attachment and threat. *The ANNALS of the American Academy of Political and Social Science*, 697(1), 148-173.
- Gafter, L., Tchetchik, A., & Shilo, S. (2022). Urban resilience as a mitigating factor against economically driven out-migration during COVID-19: The case of Eilat, a tourism-based city. *Cities*, 125, 103636.
- Gao, Z. (2023). The politics of Chinese immigrants' double unbelonging and deglobalization. *Theory & Psychology*, 33(2), 266-283.
- Garcia-Sitton, I. (2024). Policy Making in Times of Crisis: The Case of Immigration and International Students in Canada During the COVID-19 Pandemic.
- Gurung, T. W., Amburgey, E., & Craig, S. R. (2021). Unsettling the American Dream: Mobility, Migration and Precarity among Translocal Himalayan Communities during COVID-19. *Development and Change*, 52(6), 1277-1300.
- Harima, A. (2022). Transnational migration entrepreneurship during a crisis: Immediate response to challenges and opportunities emerging through the COVID-19 pandemic. *Business and Society Review*, 127, 223-251.
- Hollifield, J. F., & Foley, N. (2022a). Migration interdependence and the state. *Understanding global migration*, 3-28.

- Hollifield, J. F., & Foley, N. (Eds.). (2022b). *Understanding global migration*. Stanford University Press.
- Irudaya Rajan, S., & Arcand, J. L. (2023). COVID-19 return migration phenomena: experiences from South and Southeast Asia. *Journal of Ethnic and Migration Studies*, 49(20), 5133-5152.
- Istad, F. (2023). Rethinking Migrant Hierarchies: Non-Citizen Political Engagement and Policy Cycles in South Korea. *Korea Observer*, 54(1).
- Jolivet, D., Fransen, S., Adger, W. N., Fábos, A., Abu, M., Allen, C., ... & Zickgraf, C. (2023). COVID-19 responses restricted abilities and aspirations for mobility and migration: insights from diverse cities in four continents. *Humanities and Social Sciences Communications*, 10(1), 1-13.
- Koskela, K., & Beckers, P. (2024). Typologizing Digital Nomad Visas: Comparing Policy Rationales from Tourism to Wealth Accumulation to Immigration. *Journal of Comparative Policy Analysis: Research and Practice*, 1-19.
- Kumar, B. N., & Ojha, S. (2024). Migration policy and global health: past, present, and future. In *Handbook of Migration and Globalisation* (pp. 88-108). Edward Elgar Publishing.
- Kwak, M. J., Kwon, E., Lo, L., & Jung, G. (2024). Transculturality, Anti-Asian Racism and Student Mobility: A Case Study of Chinese International Student Experiences during the COVID-19 Pandemic 1. *Sociological Inquiry*, 94(2), 425-452.
- Lacroix, T., Hombert, L., & Furri, F. (2020). Migration and municipal militancy in the Mediterranean.
- Leung, D., Lee, C., Wang, A. H., & Guruge, S. (2023). Immigrants' and refugees' experiences of access to health and social services during the COVID-19 pandemic in Toronto, Canada. *Journal of Health Services Research & Policy*, 28(1), 34-41.
- Matsuoka, S., Kharel, M., Koto-Shimada, K., Hashimoto, M., Kiyohara, H., Iwamoto, A., ... & Fujita, M. (2022). Access to Health-Related Information, Health Services, and Welfare Services among South and Southeast Asian Immigrants in Japan: A Qualitative Study. *International Journal of Environmental Research and Public Health*, 19(19), 12234.
- McAuliffe, M., & Triandafyllidou, A. (2021). Word migration report 2022.
- Mello, R., Erro-Garcés, A., Dickmann, M., & Brewster, C. (2023). A potential paradigm shift in global mobility? The impact of the COVID-19 pandemic. *International Business Review*, 102245.
- Mensah, J., & Williams, C. J. (2022). Socio-structural injustice, racism, and the COVID-19 pandemic: A precarious entanglement among Black immigrants in Canada. *Studies in Social Justice*, 16(1), 123-142.

- Missbach, A., & Stange, G. (2023). The COVID-19 pandemic,(im) mobilities, and migration in Southeast Asia. *Advances in Southeast Asian Studies*, 16(1), 1-16.
- Muranaka, A. (2024, January). Being a Foreigner During the COVID-19 Pandemic: Researcher Positionality in Online Interviews. In *Forum Qualitative Sozialforschung/Forum: Qualitative Social Research* (Vol. 25, No. 1).
- Naik, M. (2024). Tracing Internal Migration Governance in India Through a 'Mainstreaming' Lens. *Urbanisation*, 24557471241234973.
- Ohta, R., Yakabe, T., & Sano, C. (2024). Addressing health challenges in rural Japan: a thematic analysis of social isolation and community solutions. *BMC Primary Care*, 25(1), 26.
- Palattiyil, G., Sidhva, D., Seraphia Derr, A., & Macgowan, M. (2022). Global trends in forced migration: Policy, practice and research imperatives for social work. *International Social Work*, 65(6), 1111-1129.
- Parzniewski, S. (2021). *The role of migration and diversity in building disaster resilience: a case study of Birmingham (UK) and Toyama (Japan)* (Doctoral dissertation, University of Birmingham).
- Patel, I., & Dev, A. (2023). What is prenatal stress? A scoping review of how prenatal stress is defined and measured within the context of food insecurity, housing instability, and immigration in the United States. *Women's Health*, 19, 17455057231191091.
- Peters, M. A., Hollings, S., Zhang, M., Quainoo, E. A., Wang, H., Huang, Y., ... & Green, B. (2021). The changing map of international student mobility. *ACCESS: Contemporary Issues in Education*, 41(1), 7-28.
- Portes, A., & Rumbaut, R. G. (2024). *Immigrant America: a portrait*. Univ of California Press.
- Ray, D. (2022). *Federal policy evolution, newcomer integration and data reporting: the strengths and weaknesses of Canadian immigration policy* (Doctoral dissertation).
- Rishworth, A., Wilson, K., Adams, M., & Galloway, T. (2024). Landscapes of inequities, structural racism, and disease during the COVID-19 pandemic: Experiences of immigrant and racialized populations in Canada. *Health & Place*, 87, 103214.
- Rychlowska, M., Miyamoto, Y., Matsumoto, D., Hess, U., Gilboa-Schechtman, E., Kamble, S., ... & Niedenthal, P. M. (2015). Heterogeneity of long-history migration explains cultural differences in reports of emotional expressivity and the functions of smiles. *Proceedings of the National Academy of Sciences*, 112(19), E2429-E2436.
- Sabzalieva, E., El Masri, A., Joshi, A., Laufer, M., Trilokekar, R. D., & Haas, C. (2022). Ideal immigrants in name only? Shifting constructions and divergent discourses on the international student-immigration policy nexus in Australia, Canada, and Germany. *Policy Reviews in Higher Education*, 6(2), 178-204.

- Santos, C., & Mourato, J. M. (2022). Voices of contention: the value of development narratives in the age of climate (change) migration misconceptions. *Climate and Development, 14*(1), 13-24.
- Santos, R. V. P. D. S., Cruz Neto, J., Bacelo, S. R., José, O. Y. F., Vergara-Escobar, O. J., Machuca-Contreras, F., ... & de Sousa, A. R. (2024). Migrant Men Living in Brazil during the Pandemic: A Qualitative Study. *International Journal of Environmental Research and Public Health, 21*(1), 109.
- Saraswati, D. P., Darmastuti, S., & Raharjo, P. (2024). Migrant Workers and Policy Implication within the G20 Framework. *Journal of Social and Political Sciences, 7*(1).
- Schinnerl, S. (2021). *The influence of higher education on immigration policy in Canada* (Doctoral dissertation, University of British Columbia).
- Shah, S., Sindakis, D. S., & Kaur, D. J. (2023). Reimagining global talent management for talented migrants in a post-Covid-19 World. Available at SSRN 4600110.
- Smith, M. D., & Wesselbaum, D. (2020). COVID-19, food insecurity, and migration. *The Journal of nutrition, 150*(11), 2855-2858.
- Soroka, T. (2022). Canada's Temporary Labor Migration Policy: The Case of Mexican Seasonal Agricultural Workers. *Politeja-Pismo Wydziału Studiów Międzynarodowych i Politycznych Uniwersytetu Jagiellońskiego, 19*(81), 279-303.
- Sorrell, E. M., & Ferris, E. (2021). The impacts of pandemics on migration. *The societal impacts of COVID-19: A transnational perspective, 113-132*.
- Suva, C., Liu, J., Sigurdson, E., Torio, J. E., & Benson, O. G. (2022). A case study of community-based, cross-sectoral crisis response to the COVID-19 pandemic: serving racialized immigrant communities. *Global Social Welfare, 9*(3), 193-202.
- Tamine, S. (2022). *WHAT IMPACT HAD THE COVID-19 ON THE INTERNAL MIGRATION AND ON THE REAL ESTATE PRICES?* (Doctoral dissertation, Politecnico di Torino).
- Triandafyllidou, A., & Yeoh, B. S. (2023). Sustainability and resilience in migration governance for a post-pandemic world. *Journal of Immigrant & Refugee Studies, 21*(1), 1-14.
- Walton-Roberts, M. (2023). The future of health care work and the place of migrant workers within it: internationally educated nurses in Ontario Canada during the COVID-19 pandemic. *Journal of Immigrant & Refugee Studies, 21*(1), 59-72.
- Winter, E. (2024). Middle class nation building through immigration?. *Journal of Ethnic and Migration Studies, 1-30*.
- Xia, R. (2022). A Review of Trade, Finance, Migration Openness and Environmental Quality under Globalisation. *Journal of Sociology and Ethnology, 4*(10), 34-49.

Zhan, S., Huang, L., & Zhou, M. (2022). Differentiation from above and below: Evolving immigration policy and the integration dilemma in Singapore. *Asian and Pacific Migration Journal*, 31(1), 3-25.

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Formative Instruction in Hawai‘i: Teachers’ Perspectives and Practices

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Abstract

In the aftermath of the COVID pandemic, there is value in examining the insights gained by the Hawai‘i education system through the various adaptations required to navigate the crisis. In this context, it is crucial to inquire about teachers’ perspectives on the strategies implemented in the plan to maximize the utilization of the Elementary and Secondary School Emergency Relief (ESSER) fund. This study delves into mixed-methods research. The primary goal of this study is to gain insights into teachers’ experiences with formative instruction practices. It seeks to cast light on how teachers perceive formative instruction, how it is implemented within Hawai‘i classrooms, and identify potential areas to support the teachers. Qualitative and quantitative data were collected and analyzed together so that findings from each could inform and complement the other. Teachers’ responses are representations of their lived experiences, which were used as a means to construct meanings together with the related literature. This study aimed to validate its results by seeking triangulation among different sources of information: A focused literature review, a thematic document analysis, and a survey with closed and open-ended questions. Combining the results of each of those methods, it was possible to reach conclusions that not only reflect the state of the implementation of formative assessment practices in the public schools of Hawai‘i, but are also displayed in relation to other academic efforts published about this topic, and to the guidelines that the Hawai‘i Department of Education has set in the framework of effective academic practices.

Keywords: Formative Instruction, Assessment, Teachers’ Practice, Hawai‘i, Mix Methods

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Introduction: Formative Instruction in Theory and Practice

The Elementary and Secondary School Emergency Relief (ESSER) fund, administered by the Hawai'i State Department of Education (HIDOE), was intended to address needs arising from or intensified by measures taken in response to the COVID-19 virus. One of the strategies supported by the ESSER fund was the implementation of a Framework for Accelerated Learning called Effective Academic Practices. This framework includes guidelines for out-of-school time, extended learning time, and Formative Instruction Practices (FIP), also called formative assessment or assessment for learning (Hawai'i State Department of Education, January 2022a, p. 8). This research brief focuses on exploring teachers' comprehension and implementation of FIP. The aim is to identify potential areas for reinforcement that can benefit students, especially now that the emergency is in its concluding phase. Consequently, the main objective of this study is to gain a deeper understanding of teachers' perspectives on FIP in relation to the terms as defined by the HIDOE and the broader literature about FIP, as well as to identify opportunities for improvement.

This research drew from three sources of data: a focused literature review (Paré & Kitsiou, 2017), a document analysis (Morgan, 2022), and an anonymous survey (Yusoff et al., 2021). The literature review focused on academic publications that saw the light during or after 2019. Additionally, a thematic analysis was conducted with documents shared by the HIDOE, including guidelines to apply FIP. Finally, the survey of this research was answered by 140 participants. The survey took no more than 10 minutes to be completed by participants and included questions such as: 1) "How would you define Formative Instructional Practices in your own words? 2) On a scale of 1 to 5, how confident do you feel in your understanding and implementation of formative instructional practices? 3) Please, describe one or two formative instruction practices that you have incorporated in your teaching". These questions were constructed based on the findings of the literature review and the document analysis, from which it was possible to determine that the core components of FIP are rubrics, teachings based on evidence of students' learning, feedback from teachers and peers, and self-assessment (Dudek et al., 2018).

Firstly, a need for more mixed-methods studies about FIP emerged from the literature review findings. Secondly, the document analysis revealed a correspondence between HIDOE's guidelines and the broader literature about FIP. Thirdly, in the findings from the survey, two groups of teachers emerged. One group self-reported as aligned with the expected application of FIP, and another self-reported as unclear about the concepts, components, and application of FIP. Additionally, there is a positive correlation between teachers' years of experience and the confidence level they report in the implementation of FIP. However, there seems to be a negative correlation between the number of years of experience and the level of clarity about FIP that teachers self-report. In other words, more years of experience seem to provide more confidence but not necessarily more clarity to teachers regarding FIP. In this sense, respondents recognized that formative instruction is challenging for reasons ranging from it being time consuming to lack of support from authorities. In teachers' words, ways in which the HIDOE can be more supportive would be: online or onsite professional development (PD) with experts, more resources available in the classroom, stipends offered for rural teachers to take PD training, refreshing training for veteran teachers, and follow-ups after PD. Other suggestions to better assist teachers in implementing FIP include revising policies to better adjust the demands on the shoulders of teachers to the contexts in which they work.

Conceptual Framework: Formative Instruction as a Pedagogy

The goal of formative instruction is to actively engage students in their learning process, using student-centered practices through which “both the teacher and student partner to collect evidence to know where the student is, where the student needs to go with the intended learning, and how to close the gap” (Hawai‘i State Department of Education, 2022b, p. 24). Formative instruction is a pedagogy that focuses on empowering students by building knowledge with them (Wylie, 2020). A teacher who works with formative instruction is in constant dialogue with pupils, monitoring their progress, providing feedback, and adapting teaching strategies and tools to the needs of students. The core components of formative instruction are:

- **Rubrics:** an assessment instrument developed with two guiding principles, namely feedback and instructional correctives. Its aim is to measure abilities and progress in given components (Thinwiangthong et al., 2020).
- **Teachings based on learning evidence:** observable corroboration of learning that is used to provide feedback and to adjust teaching strategies (Wylie, 2020).
- **Feedback:** verbal or nonverbal statements or gestures to provide observations regarding students’ academic performance (Dudek et al., 2018).
- **Self-Assessment:** the ability to be self-critical that triggers self-reflection and comparisons (McFadden et al., 2021).

Methods

From an interpretative paradigm that seeks to “understand the complex world of lived experience from the point of view of those who live it” (Schwandt, 1994, p. 221), this embedded –also called parallel– mixed-methods research (Cresswell, 2008) employed a myriad of data collection techniques to reach triangulation, and to ensure credibility and trustworthiness (Cresswell, 2008; Morgan, 2022): focused literature review, thematic document analysis, digital survey.

Literature Review

The literature review included 35 academic publications that saw the light during or after 2019, concerned with FIP in the formal education system, in the geographical areas that surround Hawai‘i, such as the United States and Asia-Pacific. An academic database called Web of Science was used to this end, chosen over other options because of its high quality and comprehensive characteristics. The key terms used in the search were “formative instruction” [or] “formative assessment” [and] “school”. Three screening rounds were conducted in the review process, disregarding publications that did not comply with the inclusion criteria, which were: time frame between 2019 and 2024; geographic area of USA and Asia Pacific countries; English language; peer-reviewed; focus on formative instruction.

Document Analysis

A thematic analysis (Morgan, 2022) was conducted with documents and artifacts shared by representatives of the Hawai‘i Department of Education (HIDOE) in relation to the Accelerated Learning Framework and the Formative Instruction component of this framework. Most documents have online open access, as they serve as guidelines for HIDOE teachers. A total of 8 documents and/or artifacts were scrutinized in detail, namely:

- 1) ESSER Guidance Document;
- 2) Formative Instruction Guidance Document;
- 3) Formative Instruction by the Office of Curriculum and Instructional Design;

- 4) Effective Academic Practices one pager;
- 5) Formative Instruction one pager;
- 6) Assessment for Learning and of Learning PowerPoint presentation;
- 7) Accelerated Learning one pager;
- 8) Formative Instruction and Data team PowerPoint presentation.

Survey

Surveys are instruments that can contain items to obtain quantitative data and items that intend to obtain participants' perceptions (Saldaña, 2009). Following Yussoff et al. (2021), the construction process of the survey for this research included the following steps: clarifying its aim, defining its attributes, making a plan, validating and distributing the instrument. The result was an anonymous online survey with 11 close-ended and open-ended questions that took no more than 10 minutes to be completed by participants. This instrument was distributed digitally among teachers state-wide and remained open to answers for approximately 2 months.

Findings

Although the sources of information in this research are independent of each other, we configured them so that they would complement each other and be integral parts of the whole research process.

Findings From the Literature Review

The analysis of the retained articles revealed a majority of qualitative methods and three trends in the literature about FIP: a) articles focused on students' achievements, b) articles focused on teachers' professional development, and c) articles focused on digital tools (see Figures 1 and 2). Education actors predominantly included in the studies are students and teachers, but some articles also mention Principals and families' roles in the development of FIP. Finally, from the retrieved articles, three countries have an outstanding representation: China, Singapore, and the US.

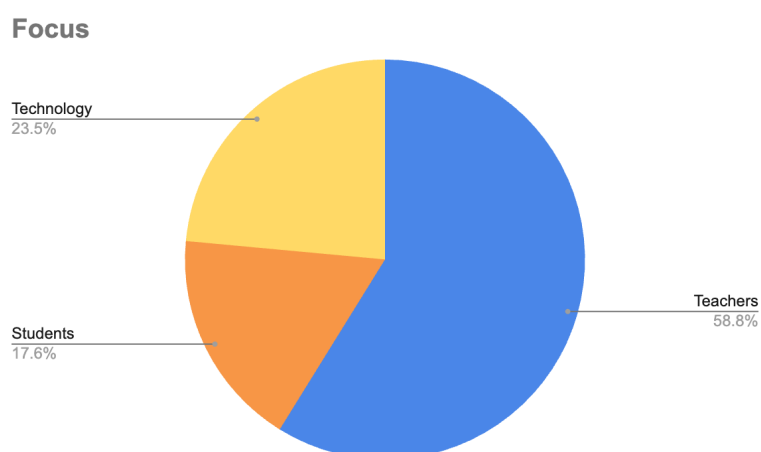


Figure 1. Focus of the included studies

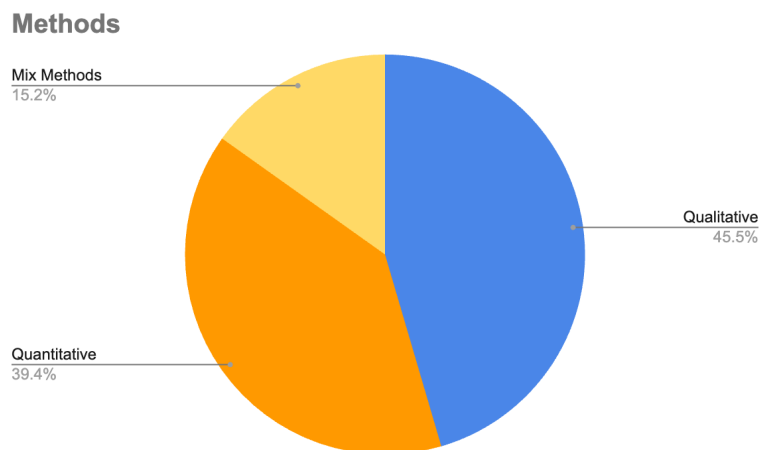


Figure 2. Methods of the included studies

Document Analysis Results

A synthesis of the official documents provided by HIDOE showed that the concepts of ‘formative instruction’ and ‘formative assessment’ appear interchangeably throughout. Furthermore, the HIDOE has clearly assigned key components and characteristics to formative practices, with the expectation that teachers would incorporate them. In this sense, the ESSER Guidance Document explains that “formative instruction practices are student-centered instructional strategies that drive the teaching and learning process” (Hawai‘i State Department of Education, 2022b, p. 24). To better understand what HIDOE means when the official documents mention the terms ‘formative instruction’, or ‘formative assessment’, or ‘assessment for learning’, it was crucial to find the ‘core components of formative instruction’. According to the Formative Instruction Guidance Document (Hawai‘i State Department of Education, 2022a), the components are:

- Clarifying the intended **learning objectives**, with examples and rubrics.
- Generating **evidence of learning**, by keeping records of learning that students can use to articulate, analyze or share with others in relation to their lives and skills.
- Providing **effective feedback**, from teacher to student and from student to student, including self-assessment.
- Fostering **ownership** of student learning, with strategies that students develop to take control of their own learning.

It is important to note that formative assessment should not be minimized to its core components. The HIDOE explains that teachers should “use tools, strategies, and resources to determine what students know, identify possible gaps in understanding, modify instruction, and actively engage students in their learning” (2022a, p. 22). Additionally, the HIDOE proposes a cycle that teachers should incorporate into their practices (see Figure 3):

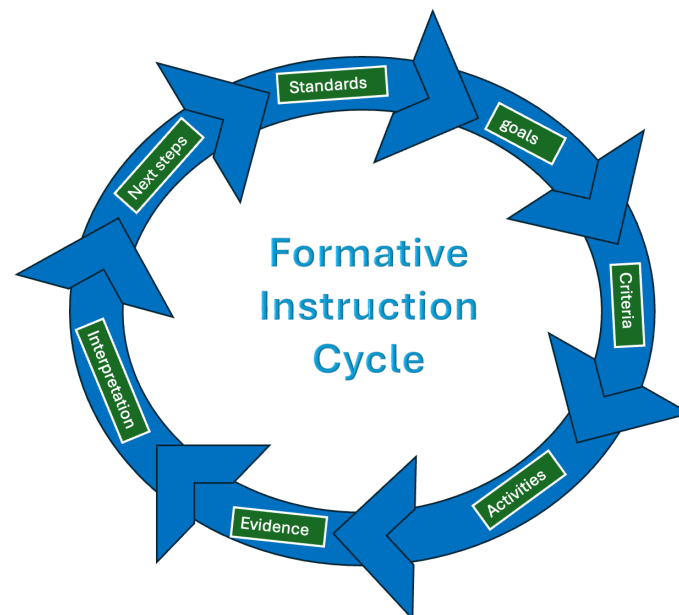


Figure 3. Formative Instruction Cycle, based on the analysis of the HIDOE's documents

Contrasting the results of the document analysis and the literature review, this research corroborated that the concepts and guidelines found in HIDOE's official documents relate to those found in academic literature. There are important coincidences between both corpora, including the importance of feedback and the students' centeredness in their own learning process.

Survey Results

The survey was answered by a random sample of 140 teachers from the Hawai'i Department of Education (HIDOE) located in urban as well as in rural areas. The majority of respondents have over 20 years of experience (43.6%) and teach elementary level (55.7%) (see Figures 4 and 5). Of the teachers who work in middle and high schools (44.3%), 80.7% teach core subjects, such as Math, Social Science, English, etc., and the rest teach elective subjects, such as Theater, Music, Spanish, etc. (see Figure 6). The answers have three clear trends: more than 20 years of experience, elementary school teachers, and core subjects. Out of the mentioned trends, there was a representation of teachers with more or less years of experience from both middle and high school and of subjects such as arts, chemistry, biology, Hawaiian studies, digital media, statistics, calculus, computer science, etc. Therefore, it can be said the sample is illustrative of a wide range of characteristics found in HIDOE teachers.

1. How many years of experience do you have in education?

140 responses

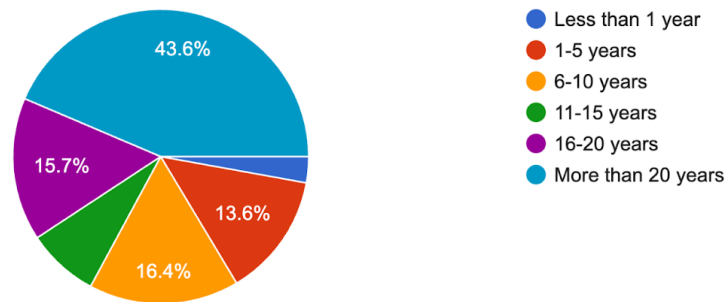


Figure 4. Teachers' years of experience

2. What grade level do you teach?

140 responses

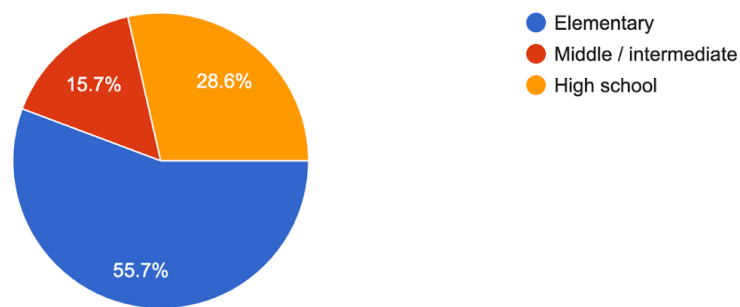


Figure 5. Levels taught by teachers

Courses

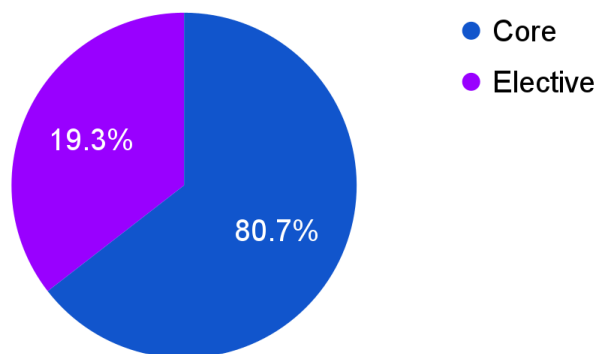


Figure 6. Types of courses

Analysis of Teachers’ Words

The survey revealed different levels of consistency between teachers’ practices and what the HIDEOE requires in terms of FIP. There is a group of teachers who self-reported as aligned with the expected application of FIP and a group of teachers who self-reported with unclear understandings of concepts and vague applications of Formative Instructional core components. Additionally, there is a positive correlation between the year of experience and the confidence level that teachers report in implementing Formative Instruction, as seen in Figure 7, where 1 (blue) represents unconfident teachers and 5 (orange) represents very confident teachers. However, I contrast with the qualitative data collected, teachers with who reported more years of experience also reported less clarity in their understandings and applications of FIP.

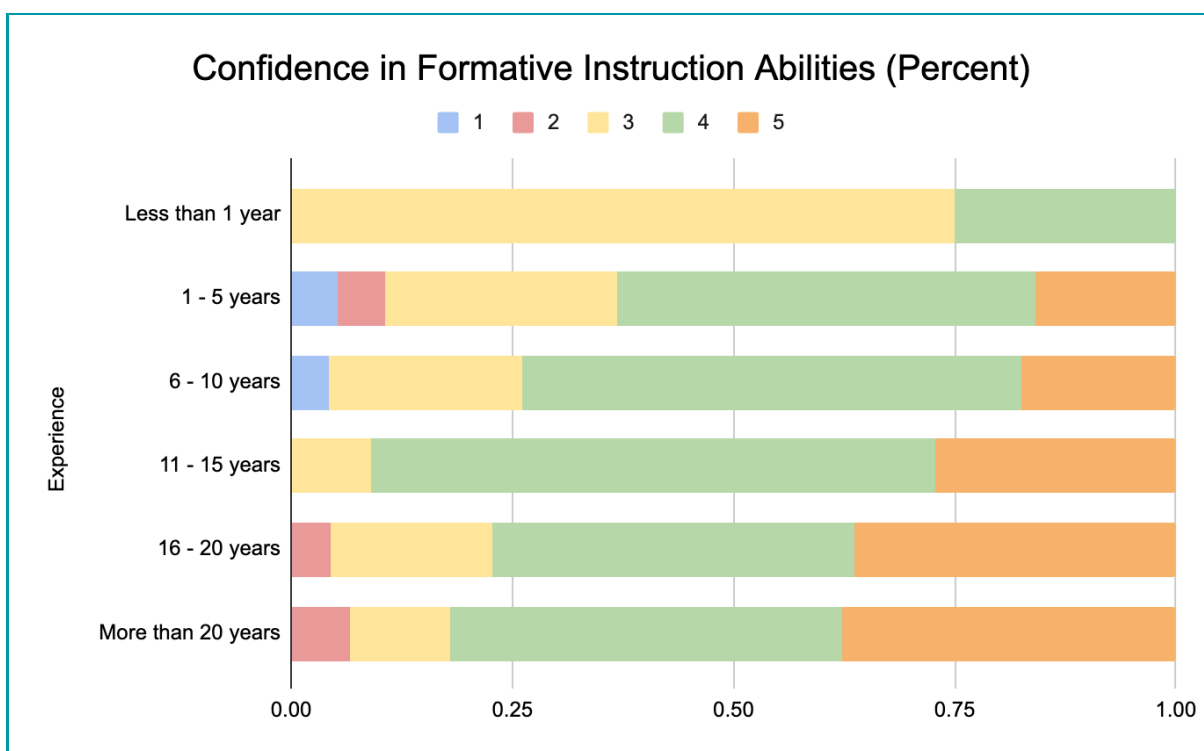


Figure 7. Correlation of teachers’ experience and confidence

Clear Practices

A group of teachers defined formative instruction as a processual and collaborative practice constructed between students and teachers, including elements such as evaluation or assessment whose results can be used to provide feedback and inform or plan teaching practices. The fundamental engagement of students in their own learning process seems to be clear for this group of teachers, who highlighted the importance of constant collaboration between students and teachers, encouraging students to apply gained knowledge. This group of teachers also reported being attentive to providing feedback for improvement when needed. Coherently, this group of teachers incorporates assessing activities during different moments of the lessons. Additionally, teachers integrate a variety of instruments and activities in their FIP, such as rubrics, scaffolding, worksheets, games, exit tickets, and more. In this sense, this group of teachers seems to align with HIDEOE’s expectations and with the concepts and guidelines found in the literature about FIP in terms of assessment, learning evidence, and feedback.

Unclear Practices

It is important to acknowledge that some of the responses received in the survey exposed a lack of clarity on both the concept and the strategies of FIP on the side of some teachers. There is a group of teachers that leans towards quizzes, tests, and summative evaluations without taking sufficiently into account other important elements such as rubrics, evidence of learning to inform teaching, students’ self-assessment, and feedback. At the same time, some teachers seem to prioritize standards of learning outcomes rather than striving to find a balance between the established standards and students’ characteristics. Such lack of balance could create a mismatch between class content and what is relevant in students’ lives, which would hinder pupils’ engagement and empowerment with the education they receive. Moreover, it should be noted that many of the unclear conceptualizations and examples of formative instruction come from teachers who have more than 20 years of experience. As can be seen in Figure 8, there is an imbalance that favors the application of two components and neglects the importance of the other two of FIP. Teachers tend to use much more frequently evidence of learning to inform teachings and feedback, and some teachers never use rubrics and students’ self-assessment.

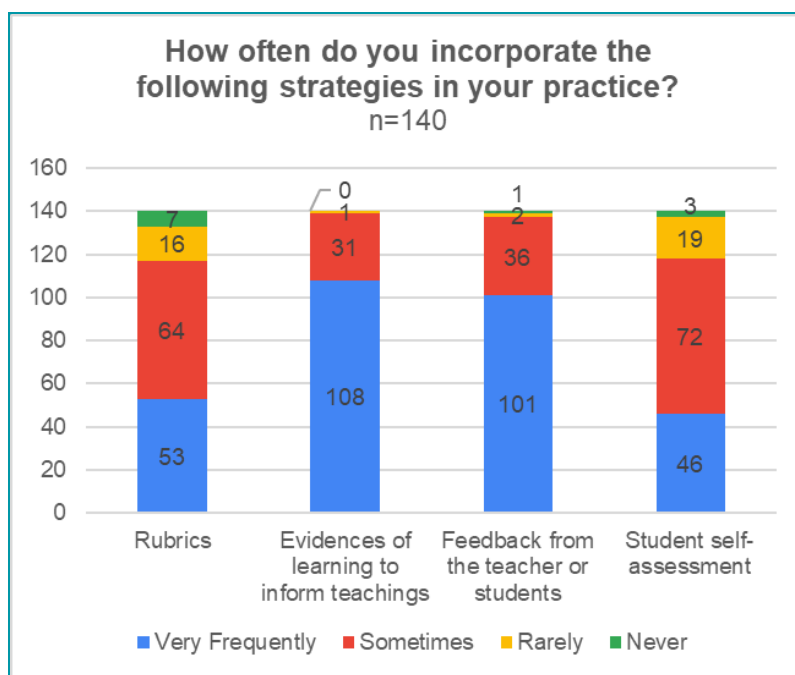


Figure 8. Application of FIP’s core components

Challenges and Opportunities

Respondents recognized that formative instruction is challenging for reasons ranging from it being time consuming to lack of support from authorities. At the same time, teachers expressed that they would like to receive support to develop collaborative schemes that can make their work more efficient. They also emphasized that the requirement to learn and use FIP should not come as a burden on top of their already various daily teaching responsibilities. In teachers’ words, ways in which the HIDEOE can be more supportive would be online or onsite professional development with experts, more resources available in the classroom, stipends offered for rural teachers to take professional development training, and refreshing training for veteran teachers. Other suggestions to better assist teachers in the implementation of formative instruction include the provision of resources for classrooms

and the revision of policies in order to better contextualize demands on the shoulders of teachers in accordance with their working conditions. Table 1 shows teachers' direct quotations when they express challenges and opportunities in relation to their implementation of FIP.

Table 1. Challenges, opportunities and goals in the implementation of Formative Practices in Hawai'i classrooms

Challenges: unclear concepts and practices	Opportunities	Goal: Teachers and HIDOE aligned
<p>“Another word that educators throw around that I ignore” “All professional development is done on the teacher's time and expense”</p>	<p>“Looking at the needs of the school or schools in the complex and offering PD's aligned to the schools/complex needs”</p>	<p>“Formative instruction is based on monitoring students' learning to inform which teaching strategies a teacher should use next”</p>
<p>“Rubrics are the worst” “Often it feels like the DOE doesn't trust teachers to teach or ask us what is important or what we actually do in our classrooms”</p>	<p>“HIDOE can support teachers by offering refresher training for veteran teachers and also new or updated strategies for all teachers.”</p>	<p>“The many ways I monitor my students' progress and make changes and improve their understanding of the subject and how it relates to them and their lives.”</p>

Despite its rigorous characteristics and different sources of data, the scope of this research is limited, given that it mostly relies only on participants' self-reporting of their practices. For a deeper exploration, it is suggested that follow-up research be carried out, including observations and interviews based on the results of this survey research.

Conclusion, Implications & Recommendations

The implementation and strengthening of Formative Instruction Practices were part of the coping strategies that the Hawai'i Department of Education used to face the Covid-19 emergency, according to the 8 official documents that were analyzed in this research. The guidelines and documents that the HIDOE issued to support teachers in this regard relate to broader literature about FIP, reflecting key characteristics, such as its core components – rubrics, evidences of learning to guide teaching, feedback, self-assessment (Thinwiangthong et al., 2020; Wylie, 2020; Dudek et al., 2018; McFadden et al., 2021) –, as corroborated with 35 publications that were reviewed for this research. Findings from the survey indicate that a group of teachers in Hawai'i reports complying with the expected implementation of FIP, but other group reports having difficulties with it, in terms of what it means and of how to put it into practice, similar to the literature about FIP that focuses on teachers (Beck & Jones, 2023). Differentiated perceptions and implementations of FIP among Hawai'i teachers implicates that some students receive more opportunities than others to actively engage with their learning process. To close the gaps, the participants of this research expressed that it would be beneficial to provide them with equitable resources, incentives and relevant training, as well as opportunities for collaboration among themselves, just as other teachers who participated in the studies that were taken into account for the literature review of this

research expressed (Popham, 2022). Policies that consider teachers' voices could potentially palliate some of the obstacles the teachers in Hawai'i and elsewhere face when they are required to incorporate FIP in terms of time consumption, overload of work, and lack of support.

This study sought to shed light on the experiences of educators in their engagement with formative instruction practices. In a world profoundly affected by the COVID-19 pandemic, understanding teachers' perceptions, the factors shaping their ideas and practices regarding formative instruction, and the actual implementation of these strategies within HIDOE classrooms is not only pertinent, but also pivotal. Perhaps most crucially, the study highlights the alignment or divergence between teachers' comprehension of formative instruction and the expectations set forth by the HIDOE. The impact of this research extends beyond mere academic curiosity; it has the potential to catalyze positive change in educational policy and professional development practices. By illuminating the gaps and commonalities in teachers' perspectives and HIDOE's expectations, we aim to inform the creation of more successful and targeted support systems for educators. Ultimately, our study contributes to the ongoing efforts to enhance the quality of education in Hawai'i and beyond, ensuring that teachers have the resources and guidance needed to provide the best possible educational experience for all students.

References

- Beck, S. W., & Jones, K. (2023). Fostering agency through dialogue in classroom writing assessment. *Teaching and Teacher Education*, 124, 104012.
<https://doi.org/10.1016/j.tate.2022.104012>
- Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research (third edition)*. Upper Saddle River, NJ: Pearson.
- Dudek, C. M., Reddy, L. A., Lekwa, A., Hua, A. N., & Fabiano, G. A. (2018). Improving universal classroom practices through teacher formative assessment and coaching. *Assessment for Effective Intervention*, 44(2), 81–94.
<https://doi.org/10.1177/1534508418772919>
- Hawai‘i State Department of Education. (January, 2022a). *Formative Instruction*. In Office of Curriculum and Instructional Design.
https://drive.google.com/file/d/1CAuABPpP21ghDILWN9vmE1P_Ahi8on_1/view
- Hawai‘i State Department of Education. (July, 2022b). *Guidance Document*. In Elementary and Secondary School Emergency relief Fund (ESSER).
https://drive.google.com/file/d/1g9a3Bp_CPoXoOPDwvrooXUY6Ze8MMDzk/view?usp=drive_lin
- McFadden, J., Jung, K., Robinson, B., & Tretter, T. R. (2021). Teacher-developed Multi-Dimensional Science Assessments Supporting Elementary Teacher Learning about the Next Generation Science Standards. *Journal of Science Teacher Education*, 33(1), 55–82. <https://doi.org/10.1080/1046560x.2021.1905331>
- Morgan, H. (2022). Conducting a qualitative document analysis. *The Qualitative Report*.
<https://doi.org/10.46743/2160-3715/2022.5044>
- Paré, G., & Kitsiou, S. (2017). Chapter 9 Methods for Literature Reviews. In F. Lau, & C. Kuziemsky (Eds.), *Handbook of eHealth Evaluation: An Evidence-Based Approach*. University of Victoria.
<https://www.ncbi.nlm.nih.gov/books/NBK481583>
- Popham, W. J. (2022). Formative assessment: Stalled by too few right-size reports. *International Journal of Assessment Tools in Education*, 9(Special Issue), 1–5.
<https://doi.org/10.21449/ijate.1196705>
- Saldaña, J. (2009). *The Coding Manual for Qualitative Researchers*. Sage Publications Ltd.
- Schwandt, Thomas. (1994). Constructivist, Interpretivist Approaches to Human Inquiry. *Handbook of Qualitative Research* Thousand Oaks, California: Sage.
- Thinwiangthong, S., Eddy, C. M., & Inprasitha, M. (2020). Mathematics teachers’abilities in developing formative assessment after the introduction of lesson study and open approach innovations. *Malaysian Journal of Learning & Instruction*, 17 (1), 101-132.

Wylie, E. C., & Lyon, C. J. (2020). Developing a formative assessment protocol to support professional growth. *Educational Assessment*, 25(4), 314–330. <https://doi.org/10.1080/10627197.2020.1766956>

Yusoff, M. S. B., Arifin, W. N., & Hadie, S. N. H. (2021). ABC of Questionnaire Development and Validation for survey Research. *Education in Medicine Journal*, 13(1), 97–108. <https://doi.org/10.21315/eimj2021.13.1.10>



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