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## Table of Contents

*Where Do Digital Natives Start and Finish? Lecturers' Use of Technology in Three Thai Universities*

Yuwanuch Gulatee

Barbara Combes

Prachyanun Nilsook

Siriluk Prasunpangsri

pp. 1 - 14

*The Construction of Team Paradigm: A Case Study of Bandanthailom School, Lamsontri District, Lopburi Province, in Thailand*

Nongluk Kaewnet

Chaturong Thanaseelangkun

pp. 15 - 22

*The Bilingual School Administrative Strategies: A Case study of Huathalea Municipality School, Nakhon Ratchasima Province, Thailand*

Raweewan Nanthapan

Chaturong Thanaseelangkun

pp. 23 - 32

*The Paradigm of Teacher Empowerment in Education institution: Multi-Case study in NakhonRatchasima Province Thailand*

Suriya Hungkhunthod

Chaturong Thanaseelangkun

pp. 33 - 38

*Life Changing: Results of a Qualitative Study on the Project Inclusive Education*

Fabian van Essen

pp. 39 - 44

*An Assessment on the Level of Research Competencies of Grade 12-Senior High School Students in a Parochial School*

Gregorio Sismondo

pp. 45 - 56

*Professional Development, Instructional Practices and Academic Performance of Mathematics Students, Muang District Elementary Schools, Surathani, Thailand*

Diosdado V. Catamco

pp. 57 - 78

*Critical Thinking Research in the Philippines: A Scoping Review on Research Gaps*

Ricardo S. Lumpas

Marcos Y

Erlina R. Mendoza

Maria Asuncion A. Lopez

pp. 79 - 98

*Case on the Switch of Numeral Form in Mathematics Textbook in Maharashtra, India*

Pooja Jain

pp. 99 - 108

*Leveraging Massive Open Online Courses (MOOCs) for Increased Access and Quality Education in Nigeria*

Abdullahi Abubakar Yunusa

Irfan Naufal Umar

James Ussher

pp. 109 - 122

*Intercultural Competence in Internationalization Context:*

*Some Recommendations for Tertiary-Level Foreign Language Teaching*

Ngan-Giang Dang

pp. 123 - 132

*A Study in Singapore: Perceptions about the Importance of Written English Language and Undergraduates' Competency Level*

Lee Keng Ng

Boon Tien Lim

Radhika Jaidev

pp. 133 - 148

*Development of Science Academic Achievement by Using Inquiry-Based Learning and Problem-Based Learning of Grade 1st Students*

Mintra Singhanak

pp. 149 - 156

*Teaching How to Give: Charitable Giving Education in Japan*

Tomomi Naka

pp. 157 - 166

*Achieving Quality in Education Under SDG 4 - Financial Challenges and Gaps from an Indian Perspective*

Shailla Draboo

pp. 167 - 180

*Transferring Results of Intercultural Communication Research to Business English Classroom: Structure and Register Fluctuation in Business Emails from British, Polish and Spanish Companies*

Hanna Skorczynska

pp. 181 - 190

*Study of English Training Model Based on Backward Design Technique: LAESTE Thailand as a Case study*

Tongdee Cheevapruk

Supitcha Cheevapruk

pp. 191 - 200

*A Voice E-book Reading System Designed for the Visually Impaired People*

Hsiao Ping Lee

Tzu-Fang Sheu

I-Wen Huang

pp. 201 - 206

*Mapping the Convergence of Communication Disciplines: A Conceptual Study*

Dorien Kartikawangi

pp. 207 - 218

*Comparing Indigenous and Non-Indigenous Drawings: A Lesson Learnt*

Miguel Angel Saritama Valarezo

Isabel Alvarez

pp. 219 - 230

<i>Factors Affecting Industrial Behaviors of the Students of Rajamangala University of Technology Thanyaburi</i> Boonsri, S Boontham, T	pp. 231 - 242
<i>Alternatives to SDGs-based Global Issues Pedagogy in ELT</i> Michael H. Brown	pp. 243 - 248
<i>Integration of Mobile Application in a Flipped Classroom for Language Learning</i> Fazilawati Harun Supyan Hussin	pp. 249 - 262
<i>Developing Creativity through Design-by-Analogy with Word Trees</i> Hung-Hsiang Wang	pp. 263 - 274
<i>The Comparison of Industrial Characteristics of Rajamangala University of Technology Thanyaburi Students</i> Tongluck Boontham Sukanya Boonsri	pp. 275 - 282
<i>A Study on the Application of Field Trips in English Teaching in Vietnam: Effectiveness and Solutions</i> Hoang Duc Doan	pp. 283 - 294
<i>Improving University Teachers' Professional Ethics in Teaching Practice in China</i> Cheng Tan Ramir S. Austria Thelma D. Palaoag	pp. 295 - 304
<i>Fourth Grade Slow Learners' Reading Error Analysis in Inclusive Elementary School in Indonesia</i> Gaby Arnez Ishartiwi	pp. 305 - 308
<i>Effects on Japanese Students Who Had No Overseas Experiences by Japanese Students Who Had Overseas Experiences in Intercultural Co-learning Classes</i> Yu Sengoku Hirokazu Nagata	pp. 309 - 316
<i>Needs Assessment: Do We Need It? A Case Study in an EFL Writing Class in Vietnam</i> Tran Lam Ngan Vi	pp. 317 - 334





***Where Do Digital Natives Start and Finish? Lecturers' Use of Technology in Three Thai Universities***

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**Abstract**

Teachers' ownership of technology devices, their access to software and web-based utilities, and their preferences when using technology are the subject of this ongoing research. The devices that instructors' use in the classroom, how teachers use online learning systems as provided by the university, and teachers' skill levels when using technology for learning are also examined. The major objective of this research is to provide a long-term comparative analysis across several universities to determine if teachers' use of technology for teaching-learning is developing or has changed to reflect how their students use technology in their daily lives. Such ongoing data collection and analysis will inform individual institutions about online learning and how to improve facilities for both staff and students for maximum educational success. The initial study was conducted in 2014 in one Thai university and expanded in 2018 to include responses from lecturers in three universities. This paper reports on the initial findings of the larger 2018 study and explores how lecturers use technology for teaching. Findings indicate that lecturers in these three universities were using social media channels such as Line and Facebook to stay in contact with their students and with each other. Email as a formal means of communication to staff and between staff and students was almost defunct, with use declining in all three universities. However, the findings also show that lecturers were unlikely to integrate and embed technology in their classroom programs and showed some resistance to trying new technology for teaching purposes. It was concluded that the university should continue to conduct ongoing monitoring and evaluation of students' and lecturers' information technology competencies.

Keywords: Lecturers E-Learning, ICT Technology, Online Learning

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## Introduction

This paper reports on lecturers' use of technology in their teaching programs in three Thai Universities, two located in the north-east of Thailand and one in Bangkok. The universities were selected for several reasons including being a public university, the level of commitment to participate in the study, preparedness of the university to encourage technology use in teaching-learning environments, and to keep pace with technology changes in teaching practices and learning processes. The universities also identified their need to embed technology use in curriculum and the development and access to teaching-learning resources. The three universities represented a variety of locations, status, and were developed via partnerships and the combination of existing educational organisations. They therefore offer a range of courses at different levels, including academic training at the vocational, higher vocational, undergraduate and graduate levels, and PhD. Two universities in particular, provide a range of courses which are designed to cater for and respond to local needs in the north-east region of Thailand.

The investigation reported in this paper was undertaken through an online survey of lecturers at the three Universities as outlined above. The survey sought information from lecturers working in higher education in order to explore issues such as ICT ownership, lecturer use and preferences and attitudes towards delivering learning resources and tools electronically. It was hypothesised that the answers to the survey would provide useful information to establish some baseline data about the way technology is used for educational purposes by teaching staff in universities in Thailand. The adoption and impact of technologies used in teaching practice and the assessment of learning achievement have driven the interest and funding of universities by policy makers, educators, and researchers worldwide (Howard & Mozejko, 2015). There are many universities in Western and Asian countries that purport to leverage the benefits of technology in higher education learning environments (Howard & Mozejko, 2015). This research explores the extent to which lecturers actually use technology in teaching-learning environments across three universities in Thailand.

## Background

Since 2014 the authors of this paper have been conducting an ongoing research project in Thailand that aims to track changes in how students use technology for learning. However, this study examined the other side of the learning-teaching paradigm and explored how lecturers use technology in the classroom, their ict ownership and their preferences and attitudes towards delivering learning electronically, resources and tools. Results from the research will be useful to administrators, course coordinators and lecturers in tailoring resources to deliver better student engagement, higher learning, and higher levels of student satisfaction. How technology is used by lecturers, personal ownership of devices, and preferences and attitudes often determine how technology is used by students for learning, rather than for social purposes only. The research also considers what technologies lecturers use in the classroom to deliver learning programs and resources to their students throughout their courses. Future research would provide ongoing data about changes in the use of technology for teaching-learning by both lecturers and students to ensure that universities are delivering the best programs for students.

## Research instruments

A survey was developed using Qualtrics software, which is an online research survey tool that can be used for a range of data gathering purposes applicable to Higher Degree Research (HDR). Since the research focusses on technology use in teaching-learning programs by university lecturers, the administration of the survey was conducted online via the Internet. Using an online survey method was also the most cost effective and time efficient way to gather data from a large group of lecturers. "Surveys and questionnaires are tools that enable the researcher to investigate trends and characteristics that are present within a population" (Pribyl, 1994, p. 195). Using the survey method enables the researcher to gain "a snapshot of the current state of affairs in a given group or population" (Janes, 2001, p. 419), in this case lecturers working at university level. The Web was chosen as a delivery platform for the survey to provide access to the maximum number of participants. Using the Web is cost effective, allows for rapid data collection and turn-around time (Nancarrow, Pallister, & Brace, 2001), and is a reliable alternative to telephone surveys (Braunsberger, Wybenga & Gates, 2007). Anonymity is afforded to participants who complete an online survey and allows them to answer questions in a non-threatening environment. Since all lecturers had access to the Internet, coverage error (Couper, 2000, p. 466-467) was not a problem for participants, who were also encouraged by their university to participate in the research.

Participants were informed of the survey via a link placed on the university websites. There were nineteen (19) questions in each survey that were grouped according to the following categories: demographics; experiences in teaching; ownership and digital lifestyle; skills and access; and file formats and learning tools being used in the classroom. The survey questionnaire and follow-up interview questions (not reported here) were designed to collect data about and to clarify participants' attitudes to technology use in the university classroom. The surveys used a 5 level Likert scale (Krosnick, et al., 2002). Survey questions were close-ended and included both Thai and English language versions. The de-identified respondent data (to ensure issues of privacy, confidentiality and security (Couper, 2000)), was fed into a common database for analysis. The survey and data entry used drop down menus and radio buttons to ensure an uncluttered layout and to encourage accurate data entry (Nancarrow, Pallister, & Brace, 2001; Pickard, 2007, p. 183-200; Williamson, 2000, p. 217-223). Finally, a progress bar indicated how far participants were through the survey to encourage them to finish.

## Data Analysis

The research used both quantitative and qualitative methods to gather data about lecturer use of technology for teaching (Pickard, 2007, Williamson, 2000). Using both types of approaches allows for the triangulation of findings, so the researcher can be more confident of the results as a representation of a snapshot in time of human behavior (Jick, 1979). Results using the quantitative method are reported in this paper and used web-based questionnaires (Wang & Doong, 2010, Greener, 2011). The data was analysed using SPSS software and the data sets discussed here include the descriptive statistical analysis only. The data from the questionnaire was analyzed using quantity (N), the sum ( $\sum X$ ), the percentage (%), the average and ( ).

## Findings

### *Demographic Information*

Participants in this research consisted of a range of lecturers who were teaching across all faculties in the three universities. The total number of participants was 256, of which 127 were female (49.61%) and 129 were male (50.39%). The participants were aged between 22-60. the number of participants from each university were also very similar with university #1 29 %(75), #2 35% (89) and #3 36% (92). Nearly half of the lecturers (48.44%) had more than 11 years of teaching experience in the university environment. These facts are represented graphically below in figures 1 and 2.

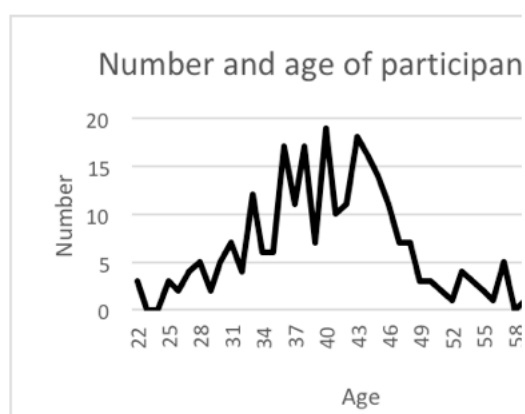


Figure 1: number and age of participants

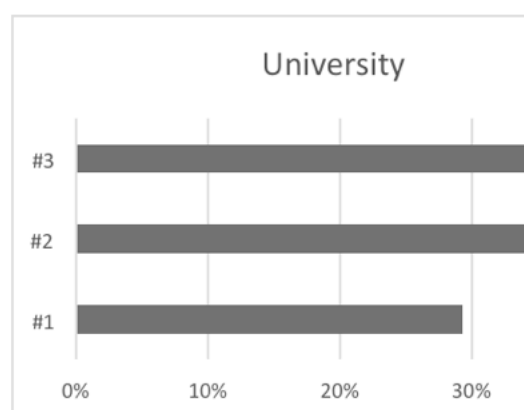


Figure 2: university participant representation

### *Teaching experience*

Forty-six percent (46%) of the participants had a Masters degree in their area of specialisation and forty-seven (47%) had a PhD. These results indicate that the average education for university lecturers in Thailand is at least at a Masters or PhD level. However, a small number of the Bachelor Degree qualified lecturers who participated is due to the inclusion of vocational classes available in university #1 and #3. these results are available in figure 3 below.

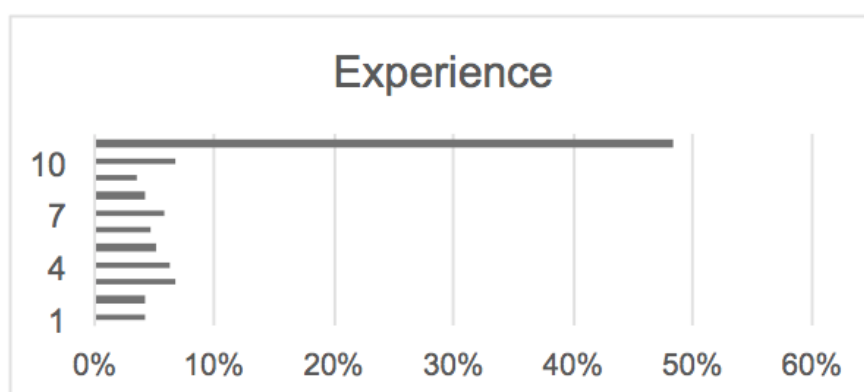


Figure 3: Participants' teaching experience at university

Universities worldwide now aspire to having teaching staff who have qualifications at masters or PhD level, especially universities that focus on original research agendas and the graduation of higher level degrees such PhD (Wolcott, 2018; Griffioen, 2018).

### Ownership and digital lifestyle

In the study lecturers were asked to describe themselves as an internet user and to provide details about their use and attitudes to technology for teaching and communication. The results for all three universities are reported in the figures below. Figure 4 illustrates that lecturers had the highest number of responses for owning a smartphone, a laptop and a printer. There were fewer responses reporting ownership of tablets (window, android and iPad). Other research has also found that ownership and use of a printer is still high amongst all age groups and that people tend to print when they want to engage with information at a deeper level (Combes, 2013). Readers who print read more carefully off printed paper, have stronger emotional responses and they remember more. Significantly, they read better when they use printed pages rather than screens for reading comprehension (garage staff, hp development, 2018).

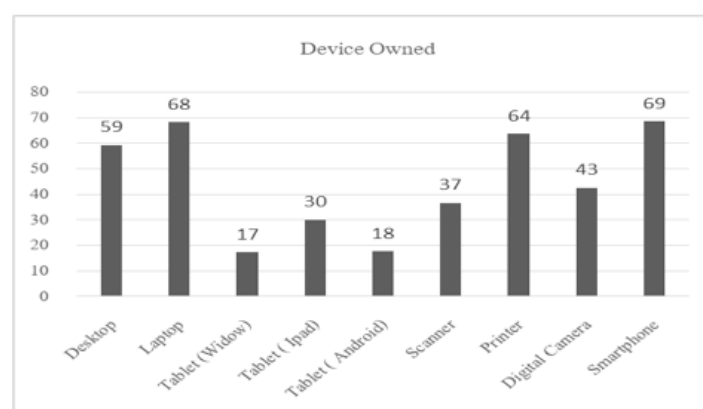


Figure 4: Lecturer ownership of technology

### Using Technology in the Classroom

Lecturers in this study were using a range of technologies in the classroom. The most popular tools were the laptop, pc and digital projector which suggests that power point slide presentations and connecting to the internet are major ways of embedding technology into classroom programs. These results are shown in figure 5.

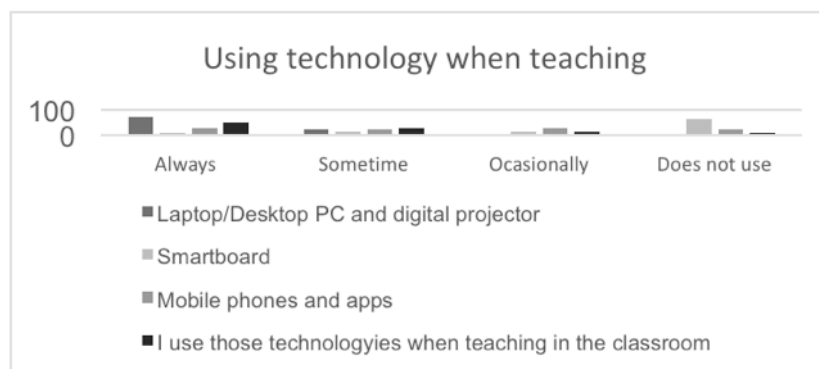


Figure 5: Using technology when teaching

Participants were also using other devices in large numbers. Participating lecturers from all three universities said they were using social media as a teaching tool and communication channel with their students. Lecturers and even the vice chancellor in one university use the social media platform line to communicate with staff and students. Research by Gulatee & Pongthano (2015) found that more than 90% of the students at university #1 preferred to communicate, discuss and post their work with their lecturers and friends via social media, rather than via the learning management system (LMS). This finding supports Morgan & Tilley (2013) who maintain that the learning “management system must be turned into a more social experience, delivering not just prescribed courses, but also a self-driven learning experience with free and open discussion on abundant resources”. To be used successfully, the LMS must be perceived by students to be a social as well as a learning space. Results in figure 7 indicate that the LMS either has not been fully introduced into the three universities at the lecturer level, or there is some resistance to using it due to student preference for social media (Gulatee & Pongthano, 2015).

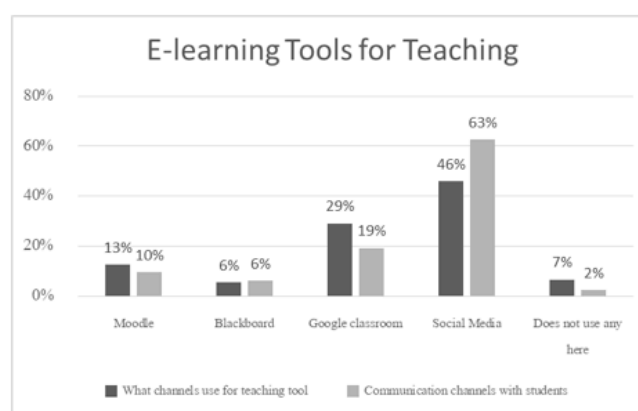


Figure 6: lecturers' use of social media tools for teaching and communicating

Almost all the lecturers (91.77%) said they taught themselves to use the internet, with the rest (6.06%) learning their skills from friends. These results mirror their students who also print and teach themselves how to use technology (itō et al, 2010, Combes, 2013, Gulatee & Combes 2018). Research that focuses on how students use the internet indicate that they are not taught how to use it effectively and efficiently, and as a consequence, tend to use it superficially, ineffectively and inefficiently, and often unethically (Combes, 2013). They also adapt their technology use to meet specific needs and often use it differently to the intended use by the developers. Other research (lei, 2009; So, Choi, Lim, & Xiong, 2012) indicates that younger pre-service teachers are tech-savvy using basic technologies and the internet (social media) for socialising and communication, but they do not appear to integrate technology into their curriculum programs. Since the average age of participants in this study was between 37 and 46 years of age (figure 1), lecturers at these universities do not fit into the net generation or millennial age group. Results in this study show that while lecturers say they like using the internet on an everyday basis and feel very confident using it, they are not as confident about their ability to embed technology in teaching-learning programs. These results are displayed in table 1.

Table 1: describing myself as an internet user

Question	Responses			
I learnt to use the internet (n=256)	Taught myself	From friends	From teacher	From family
	219	20	8	9
I like using the internet (n=256)	Like a lot	Like	Do not like	Dislike a lot
	97	130	18	11
I am confident using the internet. (n=256)	Very confident	Confident	Ok	Not confident
	114	111	25	6
I am confident finding specific information for teaching (n=256)	Very confident	Confident	Ok	Not confident
	150	82	16	8
I am confident finding specific information for leisure (n=256)	Very confident	Confident	Ok	Not confident
	152	83	15	6
I am confident using the internet publishing (n=256)	Very confident	Confident	Ok	Not confident
	106	104	33	13
I am confident downloading information from the internet (n=256)	Very confident	Confident	Ok	Not confident
	151	79	19	7
I am confident using the internet to collaborate with my peers (n=256)	Very confident	Confident	Ok	Not confident
	152	81	17	6

Results displayed in table 1 indicate that lecturers were generally confident using the internet for downloading, collaboration with peers, finding information and using the internet for teaching. However, there is still a small number (between 9 – 18%) who are not confident, and do not like using the internet. Their responses may be due to inadequate training. Since they all taught themselves to use the internet, universities must be aware that lecturers require consistent, updated training on how to use technologies for teaching-learning purposes.

Table 2: technology used during lectures

Question	Responses			
I use a polling tool technology during lectures (n=256)	Always	Sometimes	Occasionally	Do not use
	69	97	59	31
I use search engine services for reference in class work (n=256)	Always	Sometimes	Occasionally	Do not use
	71	102	61	22
I use plagiarism software such as <u>turnitin</u> my class (n=256)	Always	Sometimes	Occasionally	Do not use
	37	62	55	102
I use innovative technologies such as touch screens, and virtual reality (n=256)	Always	Sometimes	Occasionally	Do not use
	37	58	50	111
I use video recordings in class to be used again for review (n=256)	Always	Sometimes	Occasionally	Do not use
	29	48	64	115
I use simulation/games in class (n=256)	Always	Sometimes	Occasionally	Do not use
	32	72	84	68
I use <u>youtube</u> , <u>khan academy</u> and <u>itunes</u> in class (n=256)	Always	Sometimes	Occasionally	Do not use
	48	102	71	35
I use e-portfolios (n=256)	Always	Sometimes	Occasionally	Do not use
	20	45	43	148
I use and promote e-books (n=256)	Always	Sometimes	Occasionally	Do not use
	35	71	81	69

Some of the participants in this survey were using a range of tools such as polling tools, youtube, search engine services for references, khan academy and itunes when teaching in class. However, these lecturers were in the minority. A small number were using e-portfolios, video recordings of class sessions for later review, and more innovative technology such as touch screens and virtual reality for their classroom teaching. Hence, while lecturers were using social media platforms to communicate with students, their use of technology as teaching tools and resources, were limited.



### *E-learning tools in the classroom*

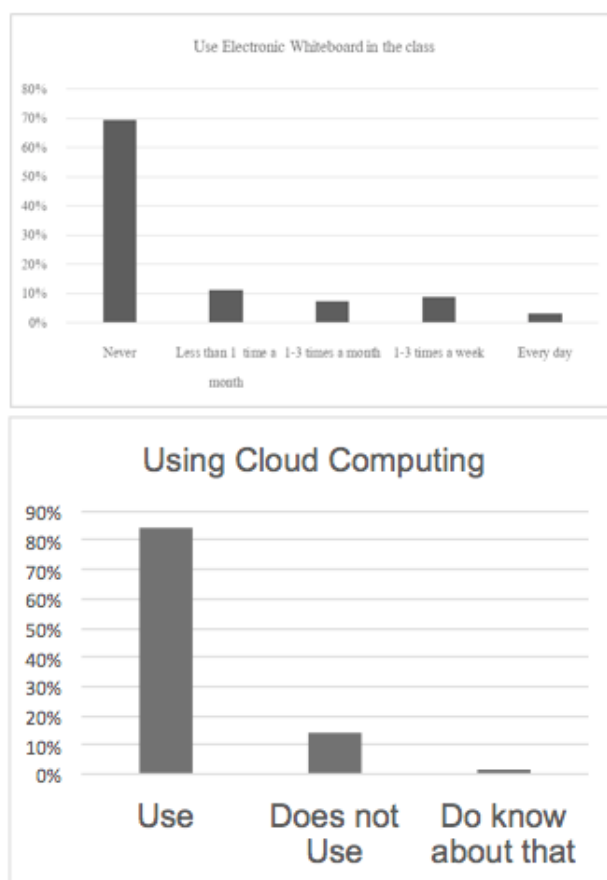


Figure 7: Lecturers use of the electronic whiteboard and cloud computing for teaching

The results displayed in figure 7 show that lecturers were not using electronic whiteboards in the classroom, but most were aware of and using (80%) cloud computing. These results once again suggest that lecturers had not received training in how to use the electronic whiteboards or they were not commonplace in the classrooms at these universities.

### *Software Skills*

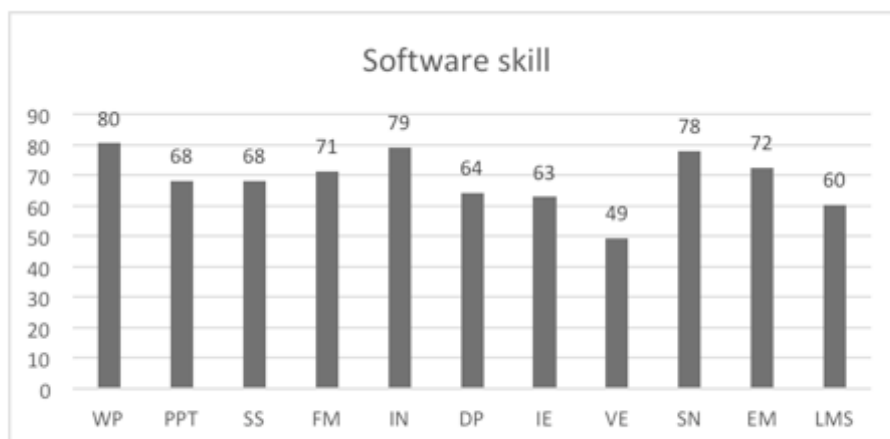


Figure 8: Lecturers personal perception of their software skills

Legend: WP = word processing, PowerPoint = ppt, SS =spreadsheets, FM= file management, IN= internet browsing, DP=digital photography, IE= image editing, VE = video editing, SN= social networking, EM=email, LMS=learning management system

Figure 8 is interesting as lecturers obviously felt they had good software skills, with word processing, file management, internet browsing, social networking and email scoring up to 80% of respondents. These results reflect lecturers' personal perceptions of their skill levels. This does not mean that their understanding of their own skill levels is high. For instance, most people use a word processing program much like a type writer, rather than using the full functionality of the program. Bearing in mind that these lecturers taught themselves how to use the internet, the same is probably true for other types of software. Software that requires extra knowledge such as video editing scored much lower skill levels. As technology develops and artificial intelligence (ai) is incorporated into software programs and web-based utilities, how the user uses the software is prescribed by the software which may limit how it is used by the user. Young people are more likely to adapt how they use technology, so it meets their personal needs (Combes, 2013), but this aspect is one that requires further investigation with older age groups, particularly in a teaching-learning context. The results in figure 8 also indicate that ongoing training for staff is an important issue.

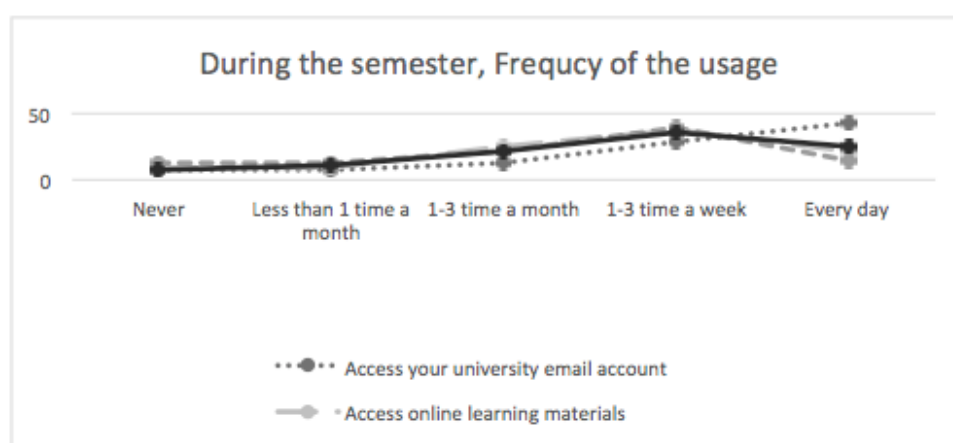


Figure 9: Lecturers frequency of use during semester

Figure 9 indicates that 40% of lecturers across the three universities use their university email and online learning materials on average, 1-3 times a week. Many lecturers also still print learning materials on a regular basis (40%). Disturbingly, there is still 7-13% who never use technology or use it only once a month (7-13%). This finding seems to be at odds with the previous results in figure 8 where lecturers appear to be confident in their use of technology. Perhaps the universities need to reconsider their training programs and include specific training on how to integrate technology into teaching-learning programs and to make this an ongoing commitment to developing staff expertise.

## Conclusion

The most interesting findings from this study indicate that lecturers in these three universities were using social media channels such as line and Facebook to stay in contact with their students and each other. Email as a formal means of communication to staff and between staff and students was almost defunct, particularly in one

university which used line to contact staff and students. In this university, social media channels were now considered to be the official means of communication by the university, with official documents being posted by the vice chancellor and senior executive of the university as a private group for staff only or students only. The fact that information via the social media channels only needed to be posted once for the group to view, could be a reason behind this shift from email to social media as a means of formal communication. Students and staff could also upload photographs of documents, assignments and forms to the university as required using a mobile phone.

While lecturers were using social media channels for communication with other staff and students, their integration and use of technology in the classroom was minimal. While lecturers understood the term cloud computing, and used it regularly, technology in the classroom was limited to power point and basic word processing. Lectures were still being delivered in the traditional way (talk) where students sit and listen to the lecturer. Participatory teaching where students are involved in the learning process by using polls and virtual reality, is not a feature in these classrooms.

There is still a small, but significant group of lecturers (between 10-20%) who report a lack of confidence when using technology and they have poor technology skill levels. The frequency of use by these lecturers indicates that they are unlikely to integrate and embed technology in their classroom programs and furthermore, will probably become resistive to trying any new technologies in the future.

Universities must be mindful that lecturers as well as students need to be taught how to use technology for teaching and learning, particularly since lecturers and students teach themselves how to use technology. Using technology as a teaching and learning tool requires a different skill set to using it for communication and social/leisure activities. Just as teachers need to keep up to date with research and changes in education, so too must they be mindful of changes in technology and how it can be used effectively in teaching-learning programs.

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***The Construction of Team Paradigm: A Case Study of Bandanthailom School,  
Lamsontri District, Lopburi Province, in Thailand***

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**Abstract**

The objectives of this research were 1) To study the elements of team building 2) Study the school teamwork-building guidelines and 3) to propose the team building paradigm. This was integrated research between qualitative research and quantitative research the target group used in the research was the best practice school in Lopburi province, Thailand. The phenomenon study used a purposive selection method. The keys information was the school director and teachers. Data analysis uses a method of content analysis and interpreting data and creating the paradigm. The tools used in the research were questionnaires and interview forms. The results found that 1) Team building elements in school by studying documents, concepts, theories, and related research include Team leader, Teamwork, and School environment. 2) Team building guidelines by studying 5 best performing schools divided into team leaders, with goals, strengthen and maintain good work processes, experienced, developing the knowledge team constantly. Teamwork has the same goal, helping caring, teaching and sharing knowledge, work skills and School environment has created a pleasant environment, create morale and work. 3) The team building paradigm consists of 3 components which are Team leader is knowledge and love, Teamwork is a team goal, clear operational processes, sincere disclosure, support and trust, cooperation and conflict resolution and School environment is the livable environment, the happiness, and successful teamwork, good communications, and 4) The results of the paradigm confirmation from team-building experts, consisting of 5 people, found that experts agreed on an average basis of 80.00% or more.

Keywords: Team paradigm; School practical, Bandanthailom School

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## Introduction

Education to understand the characteristics of working together in a school as an organization. When looking at the old style, educational administrators have views about looking at schools as having powerful power. Interpersonal relationships are vertical. Working together in an organization is characterized by subordinates who must accept the decision of the supervisor without arguments. Supervisors will not try to understand those under their command. Adhere to strict rules and regulations officially but if viewed from a modern perspective the school will be a human organization that focuses on being a community of education. The interpersonal relationship is horizontal. Workers will learn and interact with each other. There is motivation in the operation. Being viewed with sociology and psychology. The working atmosphere is democratic. As can be seen from the establishment of the school board And decentralization to schools Including the development of teachers, professors, and educational personnel to have standards that are suitable for a high professional level To have a professional organization for teachers School administrators Educational administrators. (Kanya Photiwat, 2005, p. 2)

Collaboration between teachers and staff is different in various aspects. Which the aspects can be physical, mental, environment, background, behavior, and feeling. When staff works together for a long time. The nature of differences is one of the important factors that will cause conflict between them. The conflict has both advantages and disadvantages. If there is a little conflict, it can be helpful. The problem can be creatively addressed. It also helps positive change and development. However, if any school has a high conflict. It can result in competing in the wrong way, the staff may focus on finding each other's mistakes and report them. They also may separate themselves from many groups. As a result, the overall operation can be ineffective. (Wichian Witthayaudom, 2004, p. 359)

Conflict problems causing ineffective work. This shows the effectiveness of the school very well that the school has successfully managed to achieve that goal An important indicator is the student's achievement. The management of the school's environment in Mot's concept tells how effective the school can be determined by 1) the ability to produce students with high academic achievement. 2) The ability to develop students to have a positive attitude. 3) Ability to adapt to a coercive environment. 4) have the ability to solve problems within the school Which, if any schools have many conflicts, it will negatively affect collaboration. Because they will use all the time and energy to overcome. Uneasy causing stress in Perform. These will reduce the satisfaction of work. Causing no concentration in work Creates a bad atmosphere at work. When conflicts become too much, schools will become divided. And unable to achieve school goals.

Teamwork Bring many benefits to the school. Which executives can build a strong team? That school is considered a school that has an advantage in every competition. Therefore, team development is a planning process that promotes effective collaboration at the same time. Is to find ways to reduce complications problems and obstacles. The team is an element that influences the school's work atmosphere. It helps the school to perform difficult tasks to achieve success. (Malisa Chainarong, 2014, p.1)



However, for the management guidelines for the team to work well (Lovett, 2001, p.12) studied and concluded that, there must be an idea. Every elder plays an important role in the school system. Every team member has equal responsibility. To jointly improve the quality of education in Thailand. In the case of administration to improve the quality of education in Thailand to achieve the goals of the National Education Act 1999. Although team building is an important element in achieving goals But from the analysis of related research, it was found that No research studies to find conclusions in the school about the team building paradigm. Work-related conflicts are a problem found in every school. In which the solution is to build a strong team. Therefore, teamwork is the key to driving the school mission, to make the work efficient and effective. Moreover, schools with good teamwork can develop education very well. BANDANTHAILOM SCHOOL has a good teamwork process and Systematic work. I am therefore interested in studying, presenting, and developing good teamwork processes.

### **The research Objectives**

1. Study the factors of the school teamwork-building of Bandanthailom School.
2. Study the school teamwork-building guidelines of Bandanthailom School.
3. To propose the team building paradigm of Bandanthailom School.

### **Methodology**

#### **Research design**

The purpose of this research was to create a team-building paradigm in schools. The research methodology is the mix of the in-depth interview, questionnaire, observation, analysis, the research instruments were questionnaire, interview form, and paradigm confirmation form.

Phase 1: Study of components and team building guidelines

Step 1: Study the components of team building. A case study of Bandanthailom School.

Step 2: Study of team building guidelines A case study of Bandanthailom School.

Phase 2: Proposal of the team building paradigm.

Step 1 drafting a team building paradigm.

Step 2 confirmation paradigm.

The research is gathering data and analyzing it by contents analysis. The following survey studies

## The Conceptual Framework

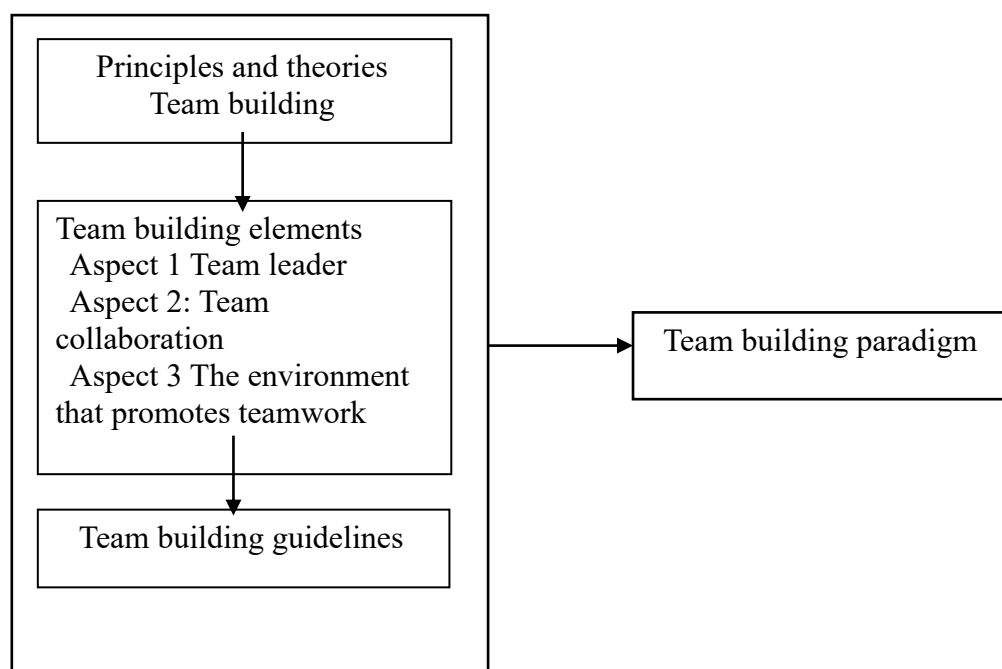


Figure 1: The Conceptual Framework.

## The conceptual framework

I divided into 3 parts

Firstly, I'm study principles and theories of team building and synthetic knowledge.

Secondly, there are Team building elements.

Aspect 1 Team leader.

Aspect 2 Team collaboration.

Aspect 3 the environment that supports teamwork.

Thirdly, A study of how to build a team from school director which is excellent for team building. From three aspects, that effecting to the consequences of management process.

## The scope of research

The Research Area is the best practice of school teamwork in Thailand. A Case Study of Bandanthailom school, Lopburi Province, in Thailand. There are the administrator, teachers and staff in the LOPBURI PROVINCE as Key Information. The Contents include paradigm process, related factors and consequences

## Conclusion

The result from the phenomenon study of team building in various issues.

### 1. Team leader

#### Knowledge

Science knowledge

Leaders have clear work goals, knowledge of 4 aspects in schoolwork, good knowledge of laws, and regulations in education. And also good knowledge of politics, government, economy, and all of the trends of the country.

### **Art knowledge**

Leaders have the art to govern people. They have creative thinking, good relationship, the art of speaking, the art of persuading people, understanding of colleagues' minds, self-awareness. They, moreover, understand the differences between people and have the humility to effectively manage school works which cause unity.

### **Knowledge and morality**

Leaders adhere to good governance, governing principles fairly, transparency in the work to lead to confidence and faith.

### **Love**

#### **Love yourself**

Leaders must love and take care of themselves, personality, appearance, health, including a good mental state. It can be included that being optimistic, thinking well, and speaking good, doing well to themselves, honoring themselves. They also happy from the inside, love and respect themselves. As a result, all of these will lead the leader to have confidence and self-confidence.

#### **Love colleagues as if they are family members**

Leaders must love and care for all colleagues equally. Ready to help when they get into trouble, give the trust to each other, caring of team members, and cooperate with love and sincerity.

***“Don’t think that they are subordinates. But think of them as family members.”***

#### **Love to learn**

Leaders must always have a love of learning which including various scientific knowledge and art knowledge, such as governing people, technological knowledge. Leaders always know how to improve themselves in order to use knowledge to work and help others.

## **2. Teamwork**

### **Team goals**

All team members have the same and clear goal in order to be used as a tool for cooperation to complete the entire mission.

Clear operational processes An effective team must use a flexible work style which including the right decision. Good decisions require the most complete information which comes from communication, speaking, writing, and doing the right things in solving problems. These will make the team effective.

### **Sincere disclosure**

Disclosure to each other is important for teamwork. Team members must dare to express their opinions. Team discussion will not cause any problem to themselves. Understanding each other for forgiveness. Knowing the flexibility to work with each

other. It is to be able to work together very well by learning about the other and able to enable members to disclosure as much as possible to each other.

### **Support and trust**

The members feel that they are able to speak honestly with other team members in both good and bad aspects. The more staff members trust in each other, it can makes the team to work more efficiently as well.

### **Cooperation and conflict resolution**

Cooperation is that each person is assigned a job and they are ready to take responsibility for the work performed. Be ready to share skills using the ideas of everyone in the team. Showing your strengths and weakness. Another point is that conflict should be at an appropriate level because a little conflict can cause good cooperation and job development.

## **3. School environment**

### **Livable environment**

There is an analysis of the school context which can lead to the school development plan in terms of the school area to be clean, shady, beautiful, pleasant to see, to learn, to work, safe and free from odor and noise pollution. It also provide sufficient resting places and properly arrange the building and activity area. They will be safe to use. Maintain and repair various equipment to be convenient, safe, sufficient and always ready to use.

### **Academic resources**

Improving the school building and classroom to be suitable. Organizing the laboratory, learning resources, technological facilities, and modern media in order to support the learning experience of the learners. And sufficient for use as well as promoting a friendly atmosphere between teachers and students.

### **The happiness and successful teamwork**

Promoting a good atmosphere and good culture of the organization. Greeting with a cheerful smile. Honor each other which can lead to a good relationship between administrators, staff, students and parents. The work, as a result, wills success.

### **Good value**

Creating a good corporate culture in the organization. Show respect for each other. Equally provide welfare and health care for staff on various occasions. Create a role model to be able to transfer knowledge and work experience in the organization. Create morale at work by honoring the award of good people. Until it creates good values for working and living happily.

## Good communication

Communication within the team is an important process. This will create understanding from one person to other person or team to other team. The importance of communication should have at least 2 things which are building good understanding between team members and providing news and information to team members in order to coordinate all team members to meet the desired objectives.

	Team Leader	Team work	School environment
Paradigm	1. Knowledge 2. Love	1. Team Goal 2. Clear operational processes 3. Sincere disclosure 4. Support and Trust 5. Cooperation and conflict resolution	1. Livable environment 2. Academic resources 3. The happiness and successful teamwork 4. Good value 5. Good communications

Figure 2: The construction of team paradigm of Bandanthailom school

## The Recommendation

1. There should be a study of guidelines for the development of the team-building behavior of the school administrators. To bring the research results to develop management to be more efficient and effective.
2. Should study the factors that affect the teamwork of the school Affiliated with the office Lopburi Educational Service Area 2 in Thailand.

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***The Bilingual School Administrative Strategies: A Case study of  
Huathalea Municipality School, Nakhon Ratchasima Province, Thailand***

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The Asian Conference on Education & International Development 2020  
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**Abstract**

This study was mixed methodology, and purpose to study factors and the bilingual school administrative guidelines. The conduct SWOT and TOWS Matrix analyses of the bilingual school administration to propose bilingual school strategies, these proposed strategies are evaluated by the experts. The data collected by documentary, focus group discussion, in-depth interview, observation, and workshop. The data analyzed using mean and standard deviation. The results found that; the bilingual school administrative factors were; school management, personal development, curriculum and instruction, environment, budget, and networking. The guidelines were; Administrators English skills and understanding of bilingual education, Hiring a foreigner who is a native speaker by 1 foreigner teacher per 1 classroom, Managing academic work by developing curriculum and learning process, measurement and evaluation, monitoring the result of practice which the following curriculum. It also follows social needs and contains up-to-date content, Organize school environment to support teaching and learning properly, Systematically allocating school budget and resources for worthiness and cost-benefit, and Using participatory administration with knowledge sharing activities on language and culture, coordinating with parents to improve student learning. The Bilingual School Strategies as the following: 1) school quality management following standards. 2) developing both Thai and foreign professionals teachers in the 21st century. 3) developing curriculum and instruction. 4) providing an environment for supporting bilingual learning. 5) supporting budgets and resources. 6) strengthening the cooperative relationship and creating a social network among domestic and international learners. The evaluating of strategies on propriety feasibility and utility overall was at a high level.

Keywords: Administrative strategies, Bilingual school, Huathalea Municipality School

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## Introduction

Education in Thailand has undergone significant changes over the past century. Currently, globalization is one of the major factors behind the educational reforms not only in Thailand but in virtually every country in the world. There is a clear movement towards multiculturalism and bilingualism. The Thai government has identified the need for curriculum reform to develop bilingual workers that are both bilingual and keenly aware of the outside world. (Ourairat, 2011) Therefore, the National Strategy (2018-2037) has been established, which is the country's first national long-term strategy developed pursuant to the Constitution. It shall be pursued to ensure that the country achieves its vision of becoming "a developed country with security, prosperity, and sustainability in accordance with the Sufficiency Economy Philosophy" with the ultimate goal being all Thai people's happiness and well-being. For The Strategy on Human Capital Development and Strengthening aims to develop Thai people of all ages in a multidimensional manner to become good, skillful, and quality citizens. The scope covers the promotion of physical, mental, and intellectual qualities, adequate multidimensional developments, sustainable welfare at all stages of life, promoting public mindedness, and generating social responsibility. Citizens are also expected to be frugal, generous, disciplined, and ethical, equipped with logical thinking and 21st-century skills, communication skills in English and a third language. Furthermore, citizens are also encouraged to preserve local languages while encouraged to acquire lifelong learning and development habits. Developments following this Strategy will help promote modern innovators, thinkers, entrepreneurs, farmers, and so forth based on personal skills and abilities. (Office of the National Economic and Social Development Board, 2018)

English is the most widely used foreign language. It is a common language used to communicate almost all over the world as a tool to access various sources of knowledge and discover new knowledge, it is absolutely necessary to encourage the Thai population to learn English at a level that can be communicated as a tool to seek knowledge and careers as well as negotiations for economic and social competition on an international stage. In the past, Thailand has attempted to increase the ability to use English including to; 1) Announcement of the policy for students to learn English as a second language, which requires teaching from primary school onwards by teacher training for language teaching. Promote the production of media and selection of textbooks, but without continue development. Encouraging the opening of more international schools and allowing Thai students to study no more than 50% of the total number of students in the school. Later, it is supporting the Bilingual School (English Program), which is a school that provides education in accordance with the curriculum of the Ministry of Education using English as a medium for teaching and learning. (Office of the Basic Education Commission, 2016)

Therefore, the Huathalea district municipality office which is a local government organization in Nakhon Ratchasima province under the Ministry of Interior established The Huathalea municipality school in 2014 and opened teaching in the academic year 2016. The objective to establish the school develops into a bilingual school, so in this area attend by free education for students. Currently, students are studying from kindergarten 1 to grade 4 with a total of 295 students. This school doesn't have a director to manage the school into bilingual school that managing by the Education Division of the Huathalea district municipality office. There are not



enough foreign teachers to teach the language. Thai teachers don't have enough foreign language skills. The school doesn't have a strategic plan. Therefore, there is not a clear operating guideline.

Researcher is an educator who responsible for the administration of Huathalea municipality school. Therefore interested to study and develop the strategy of managing the Huathalea municipality school and using the results from the research as a guideline for the development of effective bilingual school administration.

#### The research Objectives

1. To study factors and the bilingual school administrative guidelines of Huathalea municipality school.
2. To create the bilingual school administrative strategies of Huathalea municipality school.
3. To evaluate the bilingual school administrative strategies of Huathalea municipality school.

#### The Conceptual Framework

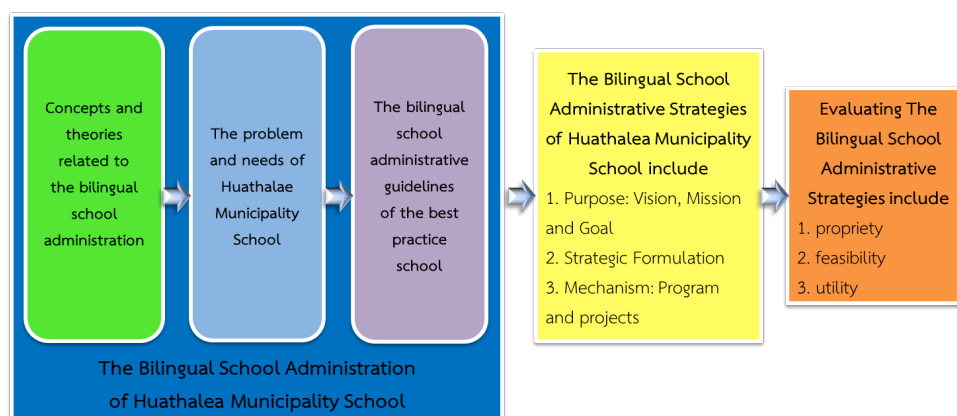


Figure 1: The Conceptual Framework.

The research methodology included qualitative and quantitative analysis, divided into 3 phases as follows;

Phase 1: Study of components and guidelines for the administration of bilingual schools of Huathalea municipality school consists of 2 steps.

Step 1: Study of the problems and needs of the bilingual school administration of Huathalea municipality school by analyzing documents from theoretical, concepts, and research related to the strategy and administration of bilingual schools in order to analyze the composition and content of important issues in the administration of bilingual schools as follows;

Strategic components include;

1. Purpose consists of Vision, Mission, and Goal
2. Strategic Formulation
3. Mechanism consist of Program and projects

The factors of bilingual school administration include;

1. School management

2. Personal development
3. Curriculum Design and Instruction
4. School environment and classroom atmosphere
5. Budgets and resources management
6. Networking of the bilingual school.

After that, the researcher organized a focus group discussion for 9 stakeholders to study the problems and needs of Huathalae Municipality School using SWOT Analysis.

Step 2 studies the best practice school process. The researcher chose to study at Tessaban 3 (YommaratSamakki) school, which is a school that is excellent in educational management according to the bilingual classroom project by interviewed school administrators and teachers responsible for the bilingual classroom project, including to studied the strategic plan and observed the operations of Tessaban 3 (YommaratSamakki) school in order to use the study results as a guideline of Huathalae Municipality School.

Phase 2 created the bilingual school administrative strategies by using workshop.

The researcher gathered the data analysis of strengths, weaknesses, opportunities and obstacles from SWOT analysis techniques and the results of the study of the administration of Tessaban 3 (YommaratSamakki) school in Phase 1 to use the workshop 25 stakeholders by using the TOWS Matrix technique and to create a strategy for bilingual school management of Huathalae Municipality School following components include;

1. Purpose consist of Vision, Mission and Goal
2. Strategic Formulation
3. Mechanism consist of Program or projects

Phase 3 evaluated the bilingual school administrative strategies on propriety, feasibility, and utility by 5 education experts and analyzed data using mean and standard deviation.

## **Conclusion**

The Research Result found that the factors of bilingual school administration consisted of school management, personal development, curriculum design and instruction, school environment and classroom atmosphere, budgets and resources management, and networking of the bilingual school.

The guidelines for Bilingual school administration

1. Administrators have English language skills and understand bilingual education administration.
2. Hiring a foreigner who is a native speaker by 1 teacher per 1 classroom
3. Administer academic by prioritizing curriculum development and learning process, measurement and evaluation, and monitoring the curriculum implication to make it conform to the social needs and contain up to date contents of subject matter

4. Organize the school environment and atmosphere to support teaching and learning properly
5. Administer school budget and resources systematically for its worthiness and cost-benefit use
6. Use participatory administration with knowledge sharing activities on both language and culture, coordinating with parents in student caring and excelling them with their full potential.

The Bilingual School Administrative Strategies of Huathalea Municipality School was composed of 3 parts: part 1 the purpose consist of Vision, Mission, and Goal.

### **Vision**

"Huathalea Municipality School is committed to developing the quality of education to be standardized Focus on bilingual communication Create an atmosphere conducive to learning Promotes teacher professionalism Strengthen educational networks with participatory management"

### **Mission**

1. Raise the quality of **educational management** following the educational standards to be a bilingual school.
2. Promote the development of **teacher quality** to be professional teachers in the 21<sup>st</sup> century.
3. Develop **curriculum and instruction** for learners to develop learners to achieve language excellence can communicate at least two languages in tandem with morality, ethics, preserving Thai identity, and living skills in the 21<sup>st</sup> century.
4. Develop the school to be a learning source and an **environment** that facilitates quality bilingual learning.
5. Supporting **budget and resources** (media, innovation, and technology) in providing thorough and effective education for bilingual schools.
6. Collaborate between schools, parents, communities, and create **network** partners to support education both domestically and internationally.

### **Goal**

1. The school has an education management system according to educational standards.
2. Thai and foreign teachers are efficient and specialized in teaching, are professional teachers in the 21<sup>st</sup> century, and are enthusiastic in their work.
3. The school has a bilingual curriculum focusing on student-centered learning. Students are morally, ethically, conserving Thai identity, live happily in the 21<sup>st</sup> century, and can communicate in English at a good level.
4. The school is a learning source that provides a conducive to environment for bilingual and diverse learning.
5. The school has media, innovation, modern information technology, and allocated budget for all learners to have an opportunity to study in a bilingual school thoroughly and efficiently.
6. Parents, communities, and network partners both domestically and internationally are involved in school management to develop the quality of bilingual education to standards.

There are 6 strategies of The Bilingual School Administrative Strategies of Huathalea Municipality School as follows;

Strategy 1 school quality management following standards.

There will be a development approach by 1) developing personnel capability to manage bilingual schools and develop English communication skills to be ready for bilingual education management, and 2) develop a bilingual school management system according to educational standards. There is a supervision system to monitor, evaluate, and examine educational quality following educational quality assurance.

Strategy 2 developing both Thai and foreign teachers to be professionals in the 21<sup>st</sup> century.

There will be a development approach by 1) promoting educational management by foreign teachers and co-teachers in all classrooms, with a supervision system to continuously improve the teaching quality of teachers, 2) developing Thai and foreign teachers to be professionals with knowledge and expertise in teaching by using modern technology and continuously developing themselves and their professions, and 3) Raise awareness among teachers to have loyalty, morality, ethics, unity, and determination to work efficiently.

Strategy 3 developing curriculum and instruction to suit bilingual learners.

There will be a development approach by 1) develop a standardized bilingual curriculum with a systematic evaluation of the curriculum, 2) develop English program teaching styles together with using modern information technology to develop learners in the 21<sup>st</sup> century, and 3) organize integrated learning activities focusing on bilingual communication by allowing parents and communities to participate in educational arrangements for learners to have professional skills, morality, and preserve Thai identity.

Strategy 4 providing an environment that is conducive to bilingual learning.

There will be a development approach by 1) improve bilingual classrooms to be ready for bilingual learning management using modern technology, and 2) improve the landscape learning sources within the school and the school area to be diverse and safe.

Strategy 5 supporting budgets and resources for bilingual school administration.

There will be a development approach by 1) Supporting the budget for hiring foreign teachers and arrange education for students to study for free without charge, and 2) Support media, innovation, technology for use in the learning process and develop information technology to be ready for bilingual school administration.

Strategy 6 strengthening the cooperative relationship and creating a social network among domestic and international learners.

There will be a development approach following 1) strengthen the relationship of participation between the school and the parent community and educational network to help students and improve the quality of education, and 2) make Memorandum of Understanding cooperation with schools and language institutes both domestically and internationally.

### **Mechanisms to implement strategies consist of**

Strategy 1 school quality management following standards.

- 1) A project for the development of the potential of bilingual school administration.
- 2) A project for the development of the bilingual school management system for educational quality assurance.
- 3) A project for improvement of the school action plan.

Strategy 2 developing both Thai and foreign teachers to be professionals in the 21<sup>st</sup> century.

- 1) A project for hiring foreign teachers to teach foreign languages.
- 2) A project for the development of teachers' potential to professional teachers.
- 3) A project for the development of communication skills in English and the using technology.
- 4) A project for the development of teacher performance in the 21<sup>st</sup> century.
- 5) A project to raise awareness of consciousness for organizations to creative and happy working together.
- 6) A project for the selection of good teachers with morality.

Strategy 3 development of curriculum and instruction to suit bilingual learners.

- 1) A project for the development of a bilingual program (English Program)
- 2) A project for the teaching and learning of bilingual courses (English program)
- 3) A project for The Common European Framework of Reference for Languages Testing (CEFR)
- 4) A project for the development of English language learning achievement
- 5) A project to enhance the experience of learning outside the place (Extra Class)
- 6) A Project for English Camps
- 7) A project for the development of life skills for learning in the 21<sup>st</sup> century
- 8) A project for the promotion of morality, bringing knowledge to the 21<sup>st</sup> century

Strategy 4 providing an environment that is conducive to bilingual learning.

- 1) A Project for the improvement of bilingual classrooms
- 2) A Project for developing learning resources within schools
- 3) A Project for landscape improvement

Strategy 5 supporting budgets and resources for bilingual school administration.

- 1) A project for raising funds and resources to improve the quality of education
- 2) A project for creating media Educational innovation and technology

- 3) A project to promote the development of ICT systems for learning and management.
- 4) A project to develop Children Counseling system

Strategy 6 strengthening the cooperative relationship and creating a social network among domestic and international learners.

- 1) A project for sports competitions to build relationships
- 2) A project for mobile Academic Camp
- 3) A project to create academic cooperation
4. The evaluating of bilingual school strategies on propriety feasibility and utility overall was at a high level.

VISION	Huathalea Municipality School is committed to developing the quality of education to be standardized Focus on bilingual communication Create an atmosphere conducive to learning Promotes teacher professionalism Strengthen educational networks with participatory management					
MISSION	1. Raise the quality of educational management following the educational standards to be a bilingual school.	2. Promote the development of teacher quality to be professional teachers in the 21 <sup>st</sup> century	3. Develop curriculum and instruction for learners to develop learners to achieve language excellence can communicate at least two languages in tandem with morality, ethics, preserving Thai identity, and living skills in the 21 <sup>st</sup> century	4. Develop the school to be a learning source and an environment that facilitates quality bilingual learning	5. Supporting budget and resources (media, innovation, and technology) in providing thorough and effective education for bilingual schools	6. Collaborate between schools, parents, communities, and create network partners to support education both domestically and internationally.
GOALS	1. The school has an education management system according to educational standards.	2. Thai and foreign teachers are efficient and specialized in teaching, are professional teachers the 21 <sup>st</sup> century, and are enthusiastic in their work.	3. The school has a bilingual curriculum focusing on student-centered learning. Students are morally, ethically, conserving Thai identity, live happily in the 21 <sup>st</sup> century, and can communicate in English at a good level.	4. The school is a learning source that provides a conducive environment for bilingual and diverse learning.	5. The school has media, innovation, modern information technology, and allocated budget for all learners to have an opportunity to study in a bilingual school thoroughly and efficiently.	6. Parents, communities, and network partners both domestically and internationally are involved in school management to develop the quality of bilingual education to standards.
STRATEGY	1. school quality management following standards	2. developing both Thai and foreign teachers to be professionals in the 21 <sup>st</sup> century	3. development of curriculum and instruction to suit bilingual learners	4. providing an environment that is conducive to bilingual learning.	5. supporting budgets and resources for bilingual school administration	6. strengthening the cooperative relationship and creating a social network among domestic and international learners.
MECHANISMS	1) A project for the development of the potential of bilingual school administration. 2) A project for the development of the bilingual school management system for educational quality assurance. 3) A project for improvement of the school action plan.	1) A project for hiring foreign teachers to teach foreign languages. 2) A project for the development of teachers' potential to professional teachers. 3) A project for the development of communication skills in English and the use of technology. 4) A project for the development of teacher performance in the 21 <sup>st</sup> century. 5) A project to raise awareness of consciousness for organizations to creative and happy working together. 6) A project for the selection of good teachers with morality.	1) A project for the development of a bilingual program. (English Program) 2) A project for the teaching and learning of bilingual courses. (English program) 3) A project for The Common European Framework of Reference for Languages Testing. (CEFR) 4) A project for the development of English language learning achievement. 5) The project to enhance the experience of learning outside the place. (Extra Class) 6) A Project for English Camps. 7) A Project for the development of life skills for learning in the 21 <sup>st</sup> century. 8) A project for the promotion of morality, bringing knowledge to the 21 <sup>st</sup> century.	1) A Project for the improvement of bilingual classrooms. 2) A Project for developing learning resources within schools. 3) A Project for landscape improvement.	1) A project for raising funds and resources to improve the quality of education. 2) A project for creating media Educational innovation and technology. 3) A project to promote the development of ICT systems for learning and management. 4) A project to develop Children Counseling system.	1) A project for sports competitions to build relationships. 2) A project for mobile Academic Camp. 3) The project to create academic cooperation.

Figure 2: The bilingual school administrative strategies of Huathalea Municipality School

## The Recommendation

1. From the results of the research, the bilingual school administrative strategies of Huathalea Municipality School should be used in the action plan and the implementation of various projects into concrete actions to achieve the goals of each strategy to develop into a standard bilingual school.

2. There should be a serious evaluation of the implementation of the bilingual school administration strategy of Huathalea Municipality School in educational institutions and continually develop strategies to monitor the effectiveness of the strategy.

### **Acknowledgements**

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***The Paradigm of Teacher Empowerment in Education institution: Multi-Case study in NakhonRatchasima Province Thailand***

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**Abstract**

The purposes of this research were 1) to study the factors of teacher empowerment in educational institution 2) to suggest the paradigm of teacher empowerment in educational institution in NakhonRatchasima Province. This research was qualitative study by using the interview techniques for 2 phases. The first phase was study of the composition and the empowerment guideline of teachers in NakhonRatchasima Province by using documents, concepts, theories, related research and 3 schools of excellent personnel administration. Second phase was suggestion the paradigm of teacher empowerment in educational institution in NakhonRatchasima Province by purposive sampling. The key informant consisted of 14 experts including 3 of school directors, 9 of teachers and education personals, and 2 of educators. The results of research were as follows: 1. The factors of teacher empowerment in educational institution of NakhonRatchasima Province by using documents, concepts, theories, related research and 3 schools of excellent personnel administration was consisted of 6 fields including career advancement, self-efficacy, work status, working impact, decision making, and freedom on work. 2. The paradigm suggestions of teacher empowerment in educational institution in NakhonRatchasima Province were as follows Career advancement Self-efficacy Work status Working impact Decision making and Freedom on work. The result of the paradigm of teacher empowerment in educational institution was found that all 14 experts agreed with the paradigm of teacher empowerment in educational institution in NakhonRatchasima Province.

Keywords: Paradigm, Empowerment

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## Introduction

Education is an important tool in creating people, creating society and creating a nation. It is the main mechanism in human's develop to qualities. Their live happily with other people in the society and the 21st century. Education is an important in creating advantage for competition and standing on the world stage economic system and social. It is world's dynamic. It is importance and devotion to the development of education to develop their human resources to keep up with the changes in the economic system and social of countries, regions and the world (Office of the Education Council 2560, P.1)

Human development is the key to driving and developing the country, especially quality of education to people have desirable characteristics that society 's National Education Act B.E. 1999 Article 6. The provision of education is human's develop ; body, mind, intellect, knowledge and morality ethics and culture in live happily with other people in the society, according to Article 9 (2). The school in Nakhon Ratchasima have to decentralize for management to educational in service area office, educational institutions, and district office for local administration to article 23. It is provide education in the form of non-formal and informal education including knowledge, morality, learning process and integration of education. But the level of educational institutions in Nakhon Ratchasima have learning processes for education. It is support the teacher to arrange the atmosphere, the environment, the media, and facilitate. The learners have learning and knowledge including the research as part of the learning process. At the same time, the teachers and the learners are learning with instructional media and science resources ( Ministry of Education 2010, P.3)

At the present, the school can't perform to success on the time. It can't the policy into task to effective because the school management. The education reform were enhance quality of school in a part which empowerment is a management format is interesting (Songsan Somchit, 2009,P.8)

As a result of empowerment work is important for teamwork and organization. Its help teachers for confident and more self-reliant, with enthusiasm focusing on creative awareness, develop self-work skills, or with others people. Teamwork create a process for improving the job that he is responsible. the person is a pioneer of new learning and seeking Themselves at all times, promoting learning for learners, as well as training students to become good citizens. They have a quality and goal to develop of education in the country. Teacher is esteemed that high vocation and should take and continual development so that teachers were perform efficiency "Professional Teacher" (Office of the Education Council, 2009, P. 20)

Problems and obstacles of teachers empowerment were caused ; personal, organizational and environmental matter. Teachers who do not wish to participate in administrative decisions because it is waste time on teaching and empowerment works were Conceal the image of administrators who lack the ability to work, some teachers lack the effort change and development together with sufficient resources and support, Some teachers do not cooperate, while some administrators are losing power. Some teachers were against because they can't accept to change roles and

responsibilities, do not want to increase responsibility, do not trust the consequences of the change or because teachers lose skills and abilities to support the improvement of various issues obstacles to teacher empowerment (Blase & Base, 1994). The results of the Kleger and Lotman (Klecker & LDadman, 1996) found that the teachers are working, a bias in sex, do not use technology and do not skills in the work. Teachers have many tasks or work alone so that all things have the impact and undermining to working power of teachers in the country. Thailand has problems and obstacles of teachers empowerment that perform teaching by oneself, because some teacher are waiting for orders from the executives. Some schools are waiting to the parents and do not do because they have old culture. (Kotwonsa Arun, 2010, P. 32)

Form the result of research, the researcher realized problems school and management of school to efficiency and effective. It is the paradigm shift to change management by teacher empowerment, to development the quality of learning management. Teacher used the paradigm of teacher empowerment in educational institution. It makes teacher empowerment, proud, able, create morale in work and satisfied which the action of school are success to quality and efficiency, to guidelines for the director in create policy, personal plan, management school, quality management and effectively.

### Objective

1. To study the factors of teacher empowerment in educational institution in Nakhon Ratchasima province.
2. To suggest the paradigm of teacher empowerment in educational institution in Nakhon Ratchasima province.

### Conceptual Framework

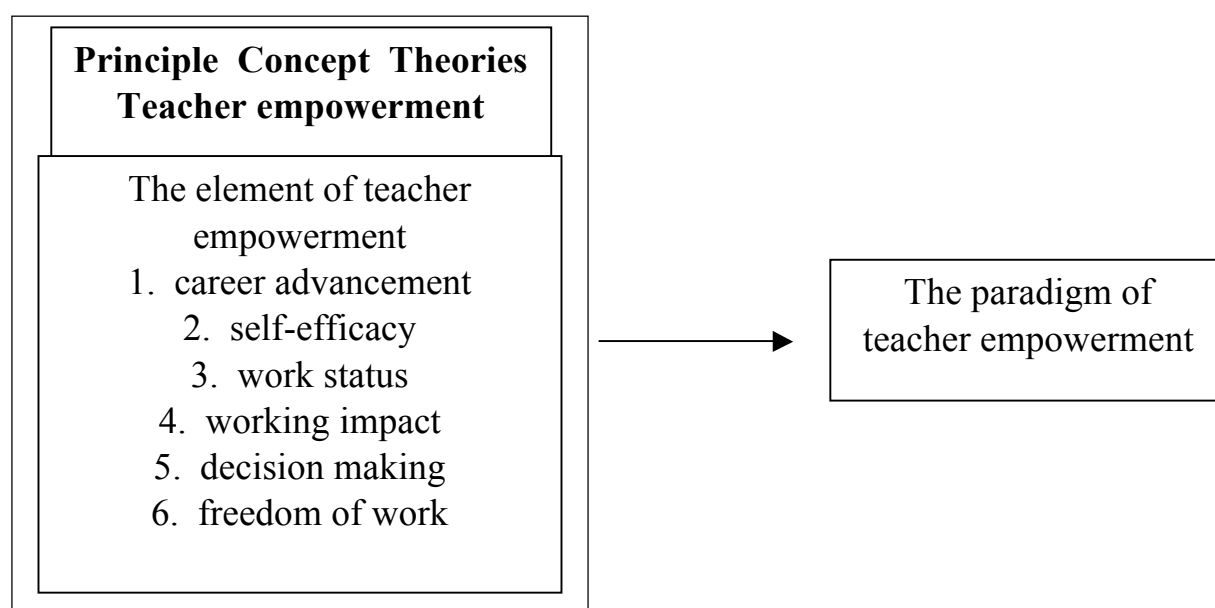


Figure 1: The Conceptual Framework.

## Methodology

Phase 1 : Study of the factors and guidelines of teacher empowerment in educational institution by Multi-Case Study in Nakhon Ratchasima province.

The researchers conducted many type of research methodology which it can concurrent as follows:

Step 1 : Study of the factors and guidelines of teacher empowerment in educational institution

Step 2: Study guidelines of teacher empowerment in educational institution

Phases 2 : The paradigm suggestions of teacher empowerment in educational institution in NakhonRatchasima Province by Multi-Case Study including conducted 2 step as follow :

Step 1: draft of the paradigm suggestions of teacher empowerment in educational

Step 2 : Confirmation the paradigm of teacher empowerment

## Result

Phase 1 : the element of teacher empowerment in educational institution in Nakhon Ratchasima province the element of teacher empowerment in educational institution in Nakhon Ratchasima province using content analysis from documentary, academic article research related in country and foreign country found that the element of teacher empowerment in educational institution in Nakhon Ratchasima province including 6 parts such as career advancement, self-efficacy, work status, working impact, decision making and freedom of work.

Phase 2 : the paradigm of teacher empowerment in educational institution in Nakhon Ratchasima province the paradigm of teacher empowerment in educational institution in Nakhon Ratchasima province using the interview 3 experts, to questioned the opinion of the experts about the paradigm of teacher empowerment in educational institution in Nakhon Ratchasima province , to lead the synthesis of the paradigm of teacher empowerment in educational institution in Nakhon Ratchasima province (draft). All 14 experts were confirmation the paradigm of teacher empowerment in educational institution in Nakhon Ratchasima province including 6 parts as follow:

- career advancement part including : organization or department, worker and quality of work.
- self-efficacy part including : experience, succession, action, observation of model, persuasion of words and body and emotion.
- work status part including : planning, management organization, personal management, command and control.
- working impact part including : personal morale, interaction, democracy process and participatory management.
- decision making part including : problem recognition, definition of problem, creation or definition of choice, evaluation behavior and monitoring action.

- freedom of work part including : training, observational study, study leave, classroom action research and supervision performance.

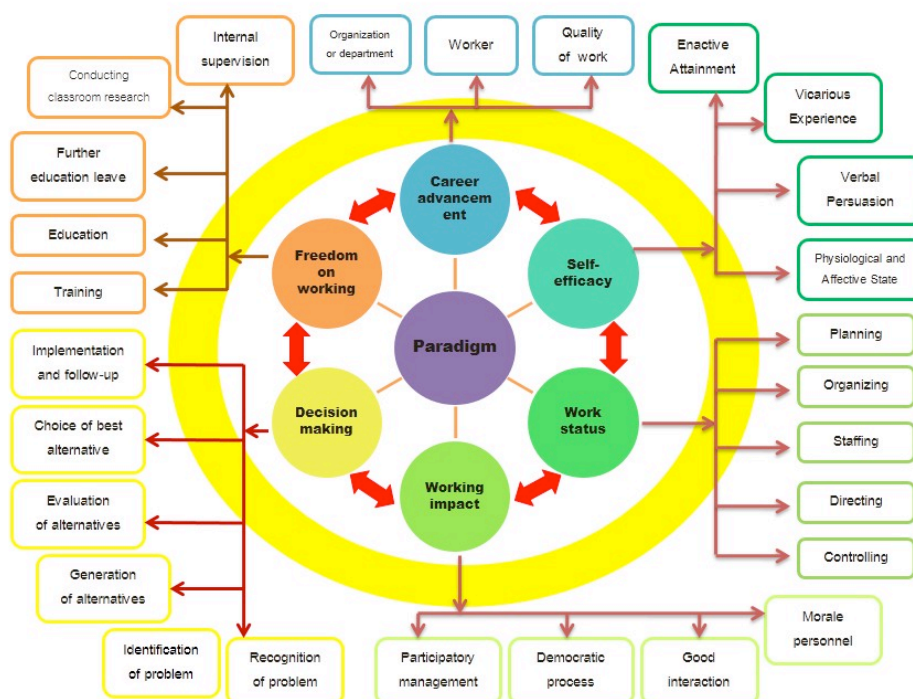


Figure 2: The construction Paradigm of Teacher Empowerment

## Recommendation

1.1 there should be a research to develop the paradigm of teacher empowerment in educational institution in Nakhon Ratchasima province that the director of school used guidelines and education management.

1.2 There should be an action research to participation using the paradigm of teacher empowerment into middle school and small school, to other develop.

1.3 There should be an quantitative research conducted to the relationship between efficiency of action with teacher empowerment in educational institution in Nakhon Ratchasima province, to effect of teacher empowerment

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***Life Changing: Results of a Qualitative Study on the Project Inclusive Education***

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**Abstract**

The German Institute for Inclusive Education (affiliated to the Christian Albrechts University in Kiel and in partnership with the Drachensee Foundation) tackles, worldwide unique, the social isolation of people with intellectual disabilities via qualifying them in full-time over three years to be fully paid lecturers at universities. Participants have been diagnosed with mild or moderate intellectual disabilities. The group of currently more than 30 participants is diverse and includes further diagnoses such as autism, trisomy 21, speech and physical impairments. All of them worked in a sheltered workshop before, which is a requirement to apply for participating. The qualification includes four theoretical modules (education system, participation, inclusion and techniques of educational work) and a practical module (teaching experiences in universities). The qualification participants learn how to educate students without intellectual disabilities on the life realities of people with intellectual disabilities in all areas of life. This paper presents the results of qualitative interviews with four participants who just finished their qualification with two leading questions: How do you appraise your personal and professional development after participating on the qualification? What kind of changes regarding your personal life do you expect after transitioning from working in a sheltered workshop to the regular labour market? Main results include the gaining of an unexpected amount of social capital, increased self-confidence, development of educational skills, and a pleasant anticipation of a massive increase of self-determination.

Keywords: inclusion, disability, education

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## Introduction

The German Institute for Inclusive Education (affiliated to the Christian Albrechts University in Kiel and in partnership with the Drachensee Foundation) provides a worldwide unique concept: people with intellectual disabilities – former employees of sheltered workshops for disabled people (Werkstätten für behinderte Menschen) – complete a three-year full-time qualification to become university lecturers.

Participants have been diagnosed with mild or moderate intellectual disabilities. The group of currently more than 30 participants is diverse and includes e.g. further diagnoses such as autism, trisomy 21, speech and physical impairments. Within the qualification, the participants learn through a modularised programme how to deliver high quality educational services, such as lectures, seminars or workshops, for university students without intellectual disabilities. Over the course of the qualification, their workplaces in the workshops for disabled people are kept free, so that an immediate return is possible at any time if one qualification participant wants to do so. So far, nobody made use of that. After the qualification, the trained people with intellectual disabilities work fully paid as educational specialists at universities. They provide educational services on a high level and receive an appropriate salary for their work. Therefore, the project tackles the high percentage of unemployment amongst people with intellectual disabilities.

The qualification consists of five modules. The first module is on employment, learning, the labour market and the education system; the second module focuses on participation, normality and involvement, society, politics and legislation, support services and the individual current situation of each participant; within the third module – which takes place at semester two, four and five – the qualification attendees develop their educational skills in real teaching scenarios in different universities; the fourth module runs consistently from start to finish and is on methods, tools and techniques of educational work. Overall, this well-founded training enables the so-called educational specialists to provide high quality educational services. Different course formats are possible: They can e.g. offer lectures, workshops or full-semester seminars (van Essen, 2017).

The content of the teaching of the people with intellectual disabilities focuses on the general aspects of life, such as education, work, leisure, culture and health. The life-realities of the university students without intellectual disabilities and individuals living with intellectual disabilities are significantly different – an aspect which does become known repeatedly during the teaching sessions. This does not surprise as people with intellectual disabilities in Germany are systematically excluded. In preschool settings, about 70 percent of children with disabilities are still growing up together with children without disabilities, e.g. in institutions like the Kindergarten (Klemm, 2015). However, only about 12 percent of pupils with intellectual disabilities attend mainstream schools, whereas the remaining 88 percent learn in special schools. More than 90 percent of former pupils of special schools transition to sheltered workshops (BMAS, 2008). Moreover, less than one percent change from sheltered workshops to employments on the regular labour market (Becker, 2017): "In Germany there is practically no permeability from sheltered workshops for disabled people to the general labour market" (Antidiskriminierungsstelle des Bundes, 2013, p. 17). About 60 percent of adults with intellectual disabilities live with their parents



(Groß, 2014) and the majority of the rest lives in residential facilities (Teilhabebericht, 2016). Ultimately, these specialised settings over the whole lifespan lead to a minimum of contacts between people without intellectual disabilities – except for people who work in these settings, e.g. as intellectual disability nurses (Heilerziehungspfleger) or special educators (Heilpädagoge) – and people with intellectual disabilities.

The confrontation with people with intellectual disabilities as university lectures enables the university students to gain a valuable change of perspective, development of a more inclusion-orientated attitude and expanded knowledge on disability and inclusion (Krämer & Zimmermann, 2018).

Also for the university, there are benefits. During the qualification and especially afterwards the work of the educational specialists with learning disabilities becomes an essential factor of a region's university landscape. The lectures, seminars and workshops are an integral part of the universities' curricula in different courses of study. Thus, the project drives forward a region's approaches on inclusivity, equality and diversity awareness.

As for the participants of the qualification, in this paper findings of a qualitative study by the author on the perspectives of the participants are presented. Four participants (three male and one female) were interviewed right at the end of their qualification. At that time, they already knew that their jobs on the first labour market were secured and the interviews happened right before their transition. The average duration of the interviews was 37 minutes and they took place in the qualification facilities the participants were very familiar with. The two leading questions were: How do you appraise your personal and professional development after participating on the qualification? What kind of changes regarding your personal life do you expect after transitioning from working in a sheltered workshop to the regular labour market? The semi-structured interviews were analysed by qualitative content analysis according to Mayring (2000).

## **Conclusion**

The qualitative content analysis resulted in the five main categories educational skills, self-confidence, social capital and self-determination. The findings are illustrated by quotations of one participant.

All interviewees reported an intense development of educational skills, which enables them to deliver high quality educational services in different formats. Whilst they know that they do not replace scientific lectures of university professors, they are very aware of their exceptional expertise of experienced people: "We have unique knowledge that nobody else has and we are experts on what it is like to live with a disability. With this knowledge, we can break down prejudices and defeat barriers. Also, this is how we are raising awareness in our society" (I2, l. 73-74). The experience of using services for people with disabilities and of living in a society that is not designed for people with intellectual disability combined with an advanced set of educational skills enables the qualification participants to reach the university students in an unprecedented way – and they are aware of their unique position and want to make use of it: "So sometimes I have the feeling that (...) the students, who

have never been in contact [with disabled people] are kind of disabled as well through fear and inexperience. However, you can de-disable yourself. That's what we are doing with our seminars" (I2, l. 115-117). All interviewees told the interviewer about developing educational skills that enabled them to have impacts on the university students similar to the quoted one. This was a process though, since the participants – who used to learn, live and work in specialised contexts before – were quite stressed and insecure when they started to gain teaching experiences in real university settings at the beginning of their qualification.

At the end of the three years though, they look back at a steady improvement of self-confidence: "That I'm, for example, able to speak more fluid in front of other people; that I feel more self-assured and confident. (...) Through the self-confidence that I gained in the project I am now able (...) to approach other people more openly" (I2, l. 325-327). This is an effect of the trust in the development-capability of the participants, which is a fundamental principle of the project. Whilst all of the interviewees made experiences of labelling processes and therefore of a lack of trust in their capabilities before, one pivotal idea of the Institute of Inclusive Education is to think that everyone is capable of personal and professional development. This did not only pay off with respect to educational skills and self-confidence.

All interviewees also extended their social capital in an unexpected amount. Before the qualification, typically for people with intellectual disabilities most of their contacts were colleagues of the sheltered workshops, family and professionals of the disability services system (Behindertenhilfe). In the course of the qualification though, they have met – among others – professors, university students and project sponsors; they also attended at conferences and further training session; they promoted the project all over Germany (and in the UK). The Institute of Inclusive Education is supported by a networking forum made up of administration, politics, self-help associations, universities and technical schools, as well as people with disabilities. This illustrates how radical the qualification participation already changed the shapes of the participants' life. The attendee describes it as follows: "Because I surpassed myself I am able to talk differently with other people (...). Three years ago, it was very different. These three years have totally changed me" (I2, l. 361-364).

Furthermore, the qualification enables a very unusual career step: the transition from employment in a sheltered workshop for disabled people to the general labour market. The resulting changes offer new opportunities for the educational professionals. These changes especially imply new possibilities of living a self-determined life. They are much less dependent of disability services and have more options of deciding what kind of a life style they wish to live, as they earn enough money to do so: "That means we can be more independent; we are not as tied up as before and (...) we can live our lives in a more free and self-determined way" (I2, l. 272-274).

This result of a more self-determined life is characteristic for the whole project. "Nothing about us without us!", this guiding principle of the international disability movement is consistently pursued through the qualification. The institute's approach is linked to at least three articles of the UN Convention on the Rights of Persons with Disabilities. The right to education (article 24) is strengthened in particular by the provision of a high-quality qualification. Raising awareness of the abilities of people with disabilities (article 8) takes place through the unique nature of university

teaching through lectures with intellectual disabilities. In addition, the very few employment opportunities on the general labour market (article 27) are being expanded.

Inclusion, understood as a systemic structural approach, integrates the broad social context of diversity. That is why inclusion-oriented innovations have to break through traditional thought patterns and question the often overly clear focus on homogeneous group constructions. In their new roles as teachers, people with intellectual disabilities are given access to an educational world in which up to now – if at all – they have primarily operated as research objects and not as educating subjects. The starting point of the Institute of Inclusive Education is to recognize the disability experience as valuable expertise. The strength of the project is in particular that the experience of living with a disability can be used as valuable expertise for everyone. The project's levels of impact are multiple. The overall vision of an inclusive society – which no longer needs the additional term 'inclusive' – is also recognizable in the interviewee's words: "I would like it to be more common that you don't see the disability of the person, but what distinguishes the person themselves. (...) That it becomes a matter of course one day (...) that you don't need the term inclusion anymore – that it's simply there" (I2, l. 448-452).

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***An Assessment on the Level of Research Competencies of Grade 12-Senior High School Students in a Parochial School***

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**Abstract**

Research is one of the important academic endeavors for the senior high school. It is considered an important skill that every student should possess being part of the academe. Inquiries, investigation and immersion is a subject in Grade 12 wherein the students are expected to apply the knowledge they gained from the subjects Practical Research 1 and 2. The researcher wanted to find out the level of competencies of his students in research. He also wanted to determine which among these competencies students had developed their strengths based on the inputs provided by the teacher during discussion and weaknesses that need to be enhanced. A descriptive survey was used in this research. A validated survey instrument was utilized to gather the necessary data. Interview was used to further verify the results of the study. Weighted mean and standard deviation were used to treat the data. The results revealed that the over-all total weighted mean of the students' competencies in research was 3.24 or satisfactory. The researcher concluded that the competencies in research of the Grade 12 students need to be improved. It is hereby recommended that the teachers in research should really focus on teaching the important skills in research. Students should be trained on how to analyze data, teach them on how to properly present findings of the study and come up with sound and correct conclusions and recommendations. Finally, this recommendation should be used as guide by the researcher in teaching research for the next school years.

Keywords: Assessment, Inquiries, Investigation & Immersions, Level of Research Competencies, & Senior High School Students

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## Introduction

Research is one of the important academic endeavors included in the new K-12 curriculum for the Senior High School. In this new curriculum, the students starting from grade 11 are given ideas about research, its nature and different types or methods. As cited by Bueno (2016) research is defined by Kerlinger (1973) as systematic, controlled, empirical, and critical investigation of hypothetical prepositions about the presumed relations among natural phenomena. Successful research is characterized by wide reading or literature review, thoroughness, independent of opinion or critical, originality, creativity and novelty and effectiveness (Bueno, 2016). Research as academic endeavor requires various skills from the persons who conduct it. Perfecto (2010) discussed that research paper requires reading and writing. It is perusing extensively over materials, weighing the relevance of each one and weaving such in information with the researcher's own ideas so that the paper is not merely a patchwork of quilted ideas but an appropriate integration of personal ideas and professional evidence.

Conducting research serves myriads of purposes which include seeking of knowledge and providing useful information in the form of verifiable data. It begins or starts in the recognition of problems or identification of a topic (Sanchez, 1997). Since research is a challenging and meaningful endeavor, the students should develop their skills and prepare for these skills that they need in the collegiate level. Even among the teachers, conducting research is encouraged. Research is seen as a mean to improve the teaching practices of the teachers. However, Taber (2007) clearly elucidated that changing teaching behavior on the basis of research is only advisable when educators are convinced that a research has been done well and is likely to apply in their own professional context.

Studying research provides varied purposes to the students. According to Perfecto (2010) the immediate purpose of a research is to learn about something and to present it in written form. Knowing how to write the research paper is a pre-requisite skill across disciplines in both secondary and tertiary levels. It is crucial in the academic survival that students master the skills involved in research paper writing. In a very real sense, this is the kind of activity that students expect to do over again until they graduate. Bueno (2016) mentioned that research orient students to the nature of educational research, its purposes, forms and importance. It also provides information which helps students become more intelligent consumers of educational research; where to locate it, how to understand it, and critique it. Furthermore, it also provides information on the fundamentals of doing educational research such as selecting a problem, using available tools, organizing a project. Lastly, it generates new theories, confirms existing ones or disapproves them.

Meanwhile, Brew (2006) presented what should be the focus of teachers who are teaching research among the students especially in the higher years. According to her, students may learn about the nature of research more generally. Instead of a focus on the content of research, the teaching may focus on students learning about the processes of research. In this regard, they may be expected to develop research skills and these may be related to the acquisition of selected set of graduate attributes. In addition, both the content and process of research may be the subject of students' learning. Students may be expected to engage in interdisciplinary projects or to learn

about research as critical analysis or about the use of research in professional practice or about research as a social practice.

There is one subject in the Grade 12 wherein the students are expected to apply the knowledge they gained from the subjects Practical Research 1 and 2. This subject refers to Inquiries, Investigation and Immersion. In this subject, the students should manifest the competencies stipulated in the curriculum guide provided by the Department of Education (DepEd) which are mostly about research. This is the first time that this subject is given to the Senior High School wherein the researcher is also a teacher. Since the subject is offered for the first time, the researcher being a first timer teacher in handling this subject would like to find out the level of competencies of his students in research. He also wants to determine which among these competencies the students had developed their strengths based on the inputs provided by the teacher during discussion and weaknesses that need to be enhanced in the remaining months before the end of the semester.

To achieve this objective, the researcher will find answers to the following specific questions:

1. How do the students assess their competencies in research in terms of the following:
  - 1.1. writing and developing the problem and its background;
  - 1.2. writing and reviewing related literature and studies;
  - 1.3. writing and preparing the method of study;
  - 1.4. writing, presenting, analyzing and interpreting data and
  - 1.5. reporting the findings, conclusions and recommendations?
2. How can the over-all level of research competencies of the grade 12 students be described based from their assessment?

According to the formulated research objectives and specific problems, the researcher chose the quantitative method as an appropriate research method. According to Bueno (2016) as he cited the idea of Creswell (1994), quantitative research is an inquiry into a social or human problems, based on testing a theory composed of variables, measured with numbers and analyzed with statistical procedure, in order to determine whether the predictive generalizations of the theory holds true. Specifically, he chose the descriptive survey design as an appropriate design for this research. According to Misa (2013) as he cited the ideas of Garcia and Raganit (2010), survey research is used to learn about people's attitudes, beliefs, values, demographics facts, behaviors, opinions, habits, desires, ideas and other information. Descriptive survey is the general procedure employed in studies that have for their chief purpose the description of phenomena in contrast to ascertaining what caused them and what their value and significance are (Sanchez, 1997)

The researcher started with development of research instrument in which its contents came from the competencies stipulated and prescribed in the curriculum guide of the Department of Education. The said research instrument is composed of five major competencies which include writing and developing the problem and its background, writing and reviewing related literature and studies, writing and preparing the method of study, writing, presenting, analyzing and interpreting data and reporting finding, conclusions and recommendations. These five major competencies have twenty eight

sub-competencies. The said instrument was validated by the expert in terms of its content and grammar.

Interview was also used in order for the researcher to verify the answers of the respondents and support the results or findings of the study.

The participants involved in this research were selected from the two classes being handled by the researcher during the second semester of School Year 2017-2018. The total number of participants is 63 learners. Convenience sampling was utilized by the researcher in choosing his participants in this research.

In order to determine and describe the level of competencies of the Grade 12 students in research, the likert scale presented below was used.

4.50-5.00	-	Excellent
3.50-4.49	-	Very Satisfactory
2.50-3.49	-	Satisfactory
1.50-2.49	-	Good
1.00-1.49	-	Needs Improvement

To determine the strengths and weaknesses of the students in their competencies in research, the students should get an assessment below or above 2.50 or quantitative description of satisfactory. Furthermore, to determine and describe the over-all performance of the students in the different competencies in research weighted mean and standard deviation were used. The Microsoft excel was utilized to processed the data derived in this study.

The researcher attempted to seek answers to five four questions, and the findings and discussions are provided in the subsequent paragraph.

1. How do the students assess their competencies in research in terms of the following:

Table 1. Assessment of the Students' Competencies in Research in terms of Writing and Developing the Problem and Its Background

Sub-Competencies	WM	Description	Rank
1.Design a research that is useful	3.56	Very Satisfactory	1
2.Write an acceptable research problem	3.41	Satisfactory	5
3.Describe background of specific research	3.37	Satisfactory	6.5
4.State research questions or objectives	3.48	Very Satisfactory	3
5.Indicate scope and delimitations of study	3.43	Very Satisfactory	4



6.Cite benefits and beneficiaries of specific research	3.51	Very Satisfactory	2
7.Defend feasibility of the research	3.25	Satisfactory	8
8.Look, cite and explain appropriate theory or concept to develop theoretical framework or conceptual framework	3.19	Satisfactory	9
9. Define the terms operationally	3.37	Satisfactory	6.5
10. List the hypothesis of the study	3.06	Satisfactory	11
11.Present the written statement of the problem	3.08	Satisfactory	10
<b>Total Weighted Mean</b>	<b>3.34</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.17</b>		

Table 1 reveals that indicator number 1 which is design a research that is useful received the highest assessment of 3.56 or very satisfactory. Next to this indicator is number 6 which is “cite benefits and beneficiaries of specific research” with 3.51 or very satisfactory. Furthermore, indicator number 4 received an assessment of 3.48 or very satisfactory.

Indicators number 2, 3, 7, 9, 8, 10 and 11 have weighted means of 3.41, 3.37, 3.25, 3.06, 3.19, 3.06 and 3.08 respectively and described as satisfactory. The total weighted mean is 3.34 or satisfactory. The standard deviation is 0.17.

The result of this research only suggests that the respondents believe that they can design a research that is useful. This competency begins from the awareness of the respondents about the problem they encounter in the institution or the environment they are part of which necessitate research. They are also competent in citing the benefits of the research that they think about or develop. They also believe that they can indicate the scope and delimitation of their study.

On the other hand, the respondents revealed that there is a need to strengthen their research competence in the areas such as presenting the statement of the problem and listing the hypothesis of the research. This indicates the researcher as teacher in this subject should strengthen the skills of the students in this area. This result is similar to the idea developed by Kerlinger (1973) that research as systematic, controlled, empirical, and critical investigation of hypothetical prepositions about the presumed relations among natural phenomena.

Table 2. Assessment of the Students' Competencies in Research in terms of Writing and Reviewing Literature and Studies

Sub-Competencies	Weighted Mean	Description	Rank
1.Select, cite and synthesize judiciously related literature	3.22	Satisfactory	3.5
2. Use sources according to ethical standards	3.22	Satisfactory	3.5

3. Present written review of literature	3.25	Satisfactory	1
4. Select and cite relevant literature using standard style	3.24	Satisfactory	2
<b>Total Weighted Mean</b>	<b>3.23</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.015</b>		

Table 2 presents the assessment of the students on their competencies in research in terms of writing and reviewing literature and studies. Indicator number 3 which is “present written review of literature” has a weighted mean of 3.25 or satisfactory. This is followed by indicator number 4 “select and cite relevant literature using standard style” with weighted mean of 3.24 or satisfactory. On the other hand two indicators have similar weighted means of 3.22 or satisfactory. The total weighted mean is 3.23 or satisfactory. These indicators are “select, cite and synthesize judiciously related literature and “use sources according to ethical standards”. The standard deviation in this competency is 0.015.

This result only suggests that the researcher really needs to strengthen the competencies of the students in terms of writing and reviewing literature and studies. The competencies of the students in this area are needed to be developed because literature review is also an essential part in providing interpretation in the chapter four of the research. Aside from this, literature review also requires students to have the ability to rephrase and synthesize the information that they find from the sources. This part of the research also requires the students to have the ability to identify if the information they find are really relevant to the topics of their research. These skills must be properly taught to the students for them to come up with better review of literature and studies. This result coincides with Perfecto (2010) who elucidated that research is perusing extensively over materials, weighing the relevance of each one and weaving such in information with the researcher’s own ideas so that the paper is not merely a patchwork of quilted ideas but an appropriate integration of personal ideas and professional evidence.

Table 3. Assessment of the Students’ Competencies in Research in terms of Writing and Preparing the Method of Study

<b>Sub-Competencies</b>	<b>Weighted Mean</b>	<b>Description</b>	<b>Rank</b>
1. Write and describe adequately the research design	3.14	Satisfactory	3
2. Explain the appropriate sampling procedure	3.08	Satisfactory	4
3. Explain the appropriate statistical treatment of data	3.02	Satisfactory	5
4. Present the written research methodology	3.29	Satisfactory	1
5. Create appropriate research instrument	3.27	Satisfactory	2
<b>Total weighted Mean</b>	<b>3.16</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.12</b>		

Table 3 present the assessment of the students on their competencies in research in terms of writing and preparing the method of the study. Indicator 4 “present the written research methodology” has a weighted mean of 3.29 or satisfactory. Meanwhile, the indicator “create appropriate research instrument” has weighted average of 3.27 or satisfactory. This is followed by indicator 1 “write and describe adequately the research design with weighted mean of 3.14 or satisfactory. Indicators 2 “explain the appropriate sampling procedure” and 3 “explain the appropriate statistical treatment of data” have weighted means of 3.08 and 3.02 respectively or satisfactory. The total weighted mean is 3.16 or satisfactory. The standard deviation is 0.12.

This indicates that the researcher really needs also to strengthen the competencies of the students in writing and preparing the method of study in research. The researcher really needs to expound the discussion on this part so that the students will develop deeper grasp of the research methods and how these methods are applied and conducted in a research.

Table 4. Assessment of the Students’ Competencies in Research in terms of Writing, Presenting and Interpreting Data

Sub-competencies	Weighted Mean	Description	Rank
1.Present the data correctly	3.27	Satisfactory	1.5
2.Analyze the data logically	3.22	Satisfactory	4
3.Interpret the data judiciously	3.27	Satisfactory	1.5
4.Relate appropriately the results to the cited related literature and studies	3.27	Satisfactory	1.5
<b>Total Weighted Mean</b>	<b>3.26</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.025</b>		

Table 4 presents the assessment on the competencies in research of the students in terms of writing and interpreting data. Indicators 1, 3 and 4 have weighted means or satisfactory of 3.27 while indicator 2 has 3.22 or satisfactory. The total weighted mean is 3.26 or satisfactory. The standard deviation is 0.025.

This suggests that the competencies of the students in writing, presenting and interpreting data must also need to be strengthened. Writing skill is necessary in research because without this the researcher will not clearly express his ideas. Failure on the part of the researcher to express his ideas will become difficult for him to completely accomplish any research initiative. Aside writing skill, presentation of data is very important. The researcher is required to correctly present the data after using certain technique in gathering of data. Moreover, interpretation is also necessary. Data gathered in research will remain meaningless if these will not be properly interpreted by the researcher. Correct and meaningful interpretation of data is the key towards successful research. This result is congruent to Perfecto (2010) who

discussed that research paper requires reading and writing. It is perusing extensively over materials, weighing the relevance of each one and weaving such in information with the researcher's own ideas so that the paper is not merely a patchwork of quilted ideas but an appropriate integration of personal ideas and professional evidence.

Table 5. Assessment of the Students' Competencies in Research in terms of Reporting Findings, Conclusions and Recommendations

Sub-competencies	Weighted Mean	Description	Rank
1. Present the findings logically	3.25	Satisfactory	3
2. Form logical conclusions	3.24	Satisfactory	4
3. Make recommendations based on conclusions	3.41	Satisfactory	1
4. Write and present clear study	3.32	Satisfactory	2
<b>Total Weighted Mean</b>	<b>3.31</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.079</b>		

Table 5 shows the assessment of the students on their level of research competencies in terms of reporting findings, conclusions and recommendations. It was revealed that indicator 3 "make recommendations based on conclusions" has a weighted mean of 3.41 or satisfactory. It is followed by indicator 4 "write and present clear study" with weighted mean of 3.32 or satisfactory. On the other hand indicator 1 "present the findings logically" has weighted mean of 3.25 or satisfactory while indicator 2 "form logical conclusions" has weighted mean of 3.24 or satisfactory. The total weighted mean is 3.31 or satisfactory. The standard deviation is 0.079.

This result suggests that the competencies of the students in terms of reporting findings, conclusions and recommendations also need to be improved. This improvement must be done because the skills needed in this aspect of research contribute in the development or creation of knowledge.

2. How can the over-all level of research competencies of the grade 12 students be described based from their assessment?

Table 6. Over-all level of Research Competencies of the Grade 12 Students

Competencies	Total Weighted Mean	Description	Rank
1. Writing and Developing the Problem and Its Background	3.34	Satisfactory	1
2. Writing and Reviewing Literature and Studies	3.23	Satisfactory	4
3. Writing and Preparing the Method of Study	3.16	Satisfactory	5

4. Writing, Presenting and Interpreting Data	3.26	Satisfactory	3
5. Reporting Findings, Conclusions and Recommendations	3.31	Satisfactory	2
<b>Over-all total Weighted Mean</b>	<b>3.24</b>	<b>Satisfactory</b>	
<b>Standard Deviation</b>	<b>0.07</b>		

Table 6 presents the over-all level of research competencies of grade 12 students. It was revealed that competency 1 “writing and developing the problem and its background has a total weighted mean of 3.34. or satisfactory. This is followed by competency 5 “reporting, findings, conclusions and recommendations with total weighted mean of 3.31 or satisfactory. Competency 4 “writing, presenting and interpreting data” has a total weighted mean of 3.26 or satisfactory. This is followed by competency 2 “writing and reviewing literature and studies” with total weighted mean of 3.23 or satisfactory. Lastly, competency 3 “writing, presenting and interpreting data” has a total weighted mean of 3.26 or satisfactory.

The over-all total weighted mean of the students’ competencies in research is 3.24 or described as satisfactory. The standard deviation is 0.07. This suggests that their competencies in research really need to be improved for them to become more competent in doing or conducting research.

This finding coincides with the idea of Brew (2006) who explained that students may learn about the nature of research more generally. Instead of a focus on the content of research, the teaching may focus on students learning about the processes of research. In this regard, they may be expected to develop research skills and these may be related to the acquisition of selected set of graduate attributes. Additionally, both the content and process of research may be the subject of students’ learning. Students may be expected to engage in interdisciplinary projects or to learn about research as critical analysis or about the use of research in professional practice or about research as a social practice.

## Conclusions

Based on the results and discussion, the following are the findings of this action research:

1. The weighted mean of the students in the indicator “design a research that is useful was 3.56 or satisfactory. On the other hand, their total weighted mean in the indicator “list the hypothesis of the study” was 3.06 or satisfactory.
2. The total weighted mean of the students in writing and reviewing literature and studies was 3.23 or satisfactory.
3. The total weighted mean of the students in writing and preparing the method of the study was 3.16 or satisfactory.
4. The total weighted mean of the students in writing, presenting and interpreting data was 3.26 or satisfactory.
5. The total weighted mean of the students reporting findings, conclusions and recommendations was 3.31. or satisfactory.
6. The over-all total weighted mean of the students’ competencies in research was 3.24 or satisfactory.

Based on the preceding findings, the conclusion for this research is given.:

1. The competencies in research of the grade 12 students really need to be improved.

Based on the above findings and conclusions, the following recommendations are suggested:

1. The teachers in research should really focus on teaching the important skills in research so that the students will become more capable in doing this task, how to create the hypothesis of certain research, how to properly present their citations in review of related literature and studies.
2. The teachers in research should train the students on how to analyze their data, teach the students on how to properly present findings of the study and come with sound and correct conclusions and recommendations.
3. The recommendations in this research should be used as guide by the researcher in teaching research for the next school years.

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***Professional Development, Instructional Practices and Academic Performance of Mathematics Students, Muang District Elementary Schools, Suratthani, Thailand***

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**Abstract**

This study aimed to assess the professional development (PD), instructional practices (IP) of the teachers and their relationships to the academic performance of grades five and six students in mathematics of Muang District Elementary Schools, Suratthani, Thailand. The descriptive statistical analysis such as mean, standard deviation and inferential statistics such as correlation, t-test and ANOVA were used to answer the research questions. The respondents of the study were the thirty-six mathematics teachers and the fourteen administrators of the different public and private schools. The variables were measured through the two sets of questionnaires being adapted/modified. The areas of PD included induction/mentoring participation, PD type participation, impact/extent of PD, participation costs, teachers' needs, and participation barriers. The areas of IP included homework, maths instructional activities, assessments, instructional influences, classroom preparations, and teachers' opinions. The results showed that there was significant difference between the degree of professional development of administrators, teachers and different areas and respondents. Likewise, there was significant difference between the extent of instructional practices of teachers, different areas, and respondents. It was also found that there was significant difference between the level of academic performance of students in mathematics, grade levels, and schools. However, it showed that there was no significant relationship between the professional development and the academic performance of students in mathematics. Similarly, there was no significant relationship between the instructional practices and the academic performance of students in mathematics. Finally, this study revealed that there was significant relationship between the professional development and the instructional practices.

Keywords: Academic performance, Instructional practice, Mathematics students, Professional development, Southern Thailand elementary schools

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## Introduction

Education has always been a significant part of everyone's life. Time and again, it's been awash with new ideas about teaching and learning. According to United Nations Educational, Scientific and Cultural Organization or UNESCO (2017), "education" transforms lives and is at the heart of UNESCO's mission to build peace, eradicate poverty and drive sustainable development.

Thailand, like some other members of the ASEAN (Association of Southeast Asian Nation), is also struggling in terms of quality education among its students. The government is now doubling its efforts towards a globalized competitive education. The Thailand Ministry of Education has enacted major educational reforms and invested a significant proportion of its national wealth into educating its younger citizens, however, not all sections of society have benefitted equally from this expansion (OECD/ UNESCO, 2016).

Professional Development was explained broadly by the Organization for Economic Co-operation and Development (OECD) as "activities that develop an individual skills, knowledge, expertise and other characteristics as a teacher" (OECD 2009, p49).

The review of nine studies by Yoon, et. al (2007) found that sustained and intensive professional development was related to student achievement. Tantranont (2009) also concluded that most teacher-respondents were appreciative of the opportunities for continuing professional development (CPD) and valued its benefits to teachers, students, and schools – and that CPD must be of the highest quality to be effective in order to enhance the teaching practice and student achievement.

Instructional Practices was defined by Saskatchewan Ministry of Education, Canada (2011) as "the general descriptors for a range of instructional approaches that support thinking in each of the four domains of cognition: Knowledge Acquisition, Cognitive Processes, Metacognitive Processes, The Self-System (Dispositions)".

Klassen and Chiu (2010) also found that teachers experience an ongoing commitment towards the profession when they have high self-efficacy, believing in their capabilities to apply appropriate learning strategies, and that the relationship between teaching practices and associated factors are not linear, that is, successful teaching practices may lead to changes in beliefs, and the beliefs that teachers hold can in turn drive teaching practices.

Students' performance or commonly called the "academic performance" or "students' achievement" may refer to how the students deal with their studies and how they cope with or accomplish different tasks given to them by their teachers. Schools are established with the aim of imparting knowledge and skills to those who go through them and behind all these is the idea of enhancing good academic performance (Patena, A.D. & Dinglasan, B.L.H., 2013).

Khun-Inkeeree, H., et al., (2017) investigated the relationship between self-confidence and mathematics achievement among students on Grade 6 in Southern Thailand. They found that cooperative learning by student teams-achievement divisions technique

improves students' self-confidence in mathematics class. Another study of Khun-onkeeree, H. et. al. (2016) found that there is positive relationship between students' attitude towards learning mathematics and their achievement. On the same year, Khun-Inkeeree, H. et al. (2016) conducted another study and found that private schools perform better than public schools.

It has been said that Mathematics has always been considered by many students as one of the difficult subjects. Nowadays, there are various researches and international tests regarding these subject to measure the learning proficiency of students worldwide. The latest scores and rankings in the Programme for International Student Assessment (PISA) and the Trends in International Mathematics and Science Study (TIMSS) were once again disappointing for Thailand.

Thai students' scores remained below average in both international academic surveys and came as a disappointment for the government education system. According to the latest PISA result for 2015, Thailand scored 421 in science, 415 in mathematics and 409 in reading with the average ASEAN PISA scores of 493, 490 and 493 respectively. Thailand's overall education result was lower than the previous test in 2012 and was below the average of OECD countries ("Thailand's Students' Scores", 2017).

With regards to the TIMSS result, the mean score in mathematics and science education had improved though the scores in both subjects were still below average. The Asian TIMSS 2015 score for Thailand in mathematics was 431 compared to 427 in 2011, ranking 26 out of 39 countries. The score in science was 456, compared to 451 in the last assessment, which also ranked 26. The mean score of both subjects was 500 ("Thailand's Students' Scores", 2017).

### **Theoretical / Conceptual Framework**

Actions, Processes, Objects, Schemas Theory or simply APOS Theory is a theory of mathematical understanding, its nature, and its development; the basic tenet of this theory, a constructivist theory, is that an individual's understanding of a mathematical topic develops through reflecting on problems and their solutions in a social context and constructing or reconstructing certain mental structures and organizing these in schemas to use in dealing with problem situations (Dubinsky, 2014).

The study of Firmender, J., et al. (2014) examined the relationship between teachers' instructional practices and students' mathematics achievement. Results indicated that significant, positive relationships existed; the teachers' implementation scores for verbal communication and encouraging mathematical language instructional practices were predictors of student mathematics achievement.

In Thailand, the gap between the rich and the poor is rising, and the average income of the rich is about 27 times higher than the average income of the poor (Prasertkul, 2008). As in other countries, the students with low-socioeconomic status in Thailand unavoidably encounter difficulties in earning high quality of living and academic performance (Katwibun, 2013). Recognizing the importance of mathematics learning,

the Minister of Thai Education (2008) stated that students in Thailand were expected to learn to associate knowledge of mathematics with other sciences.

The next figure showed schematic diagram of how the variables of the study are interconnected to each other. The independent variables are the Professional Development (PD) of teachers/administrators and the Instructional Practices (IP) of teachers. These variables were gathered through questionnaire. The PD has six areas, namely; participation in induction and mentoring activities, participation by type of PD, Impact and extent of PD activities participated in, participation rates and financial costs, teachers' need for PD, and the barriers to participation in PD. The instructional practices (IP) has also six areas, viz; homework, instructional activities in mathematics, assessments, instructional influences, classroom instructional preparations, and teachers' opinions. These variables are put in separate rectangular boxes to show their independence with each other. However, the double-headed arrow in between them represents the logical interrelatedness of these variables. The two arrows pointing directly to the right box also indicate their relatedness to the third variable. The improved academic performance of students in mathematics was the main concept in the right box as the output of the study. In this particular case, the output of the study also served as the dependent variable where the significant correlations were tested.

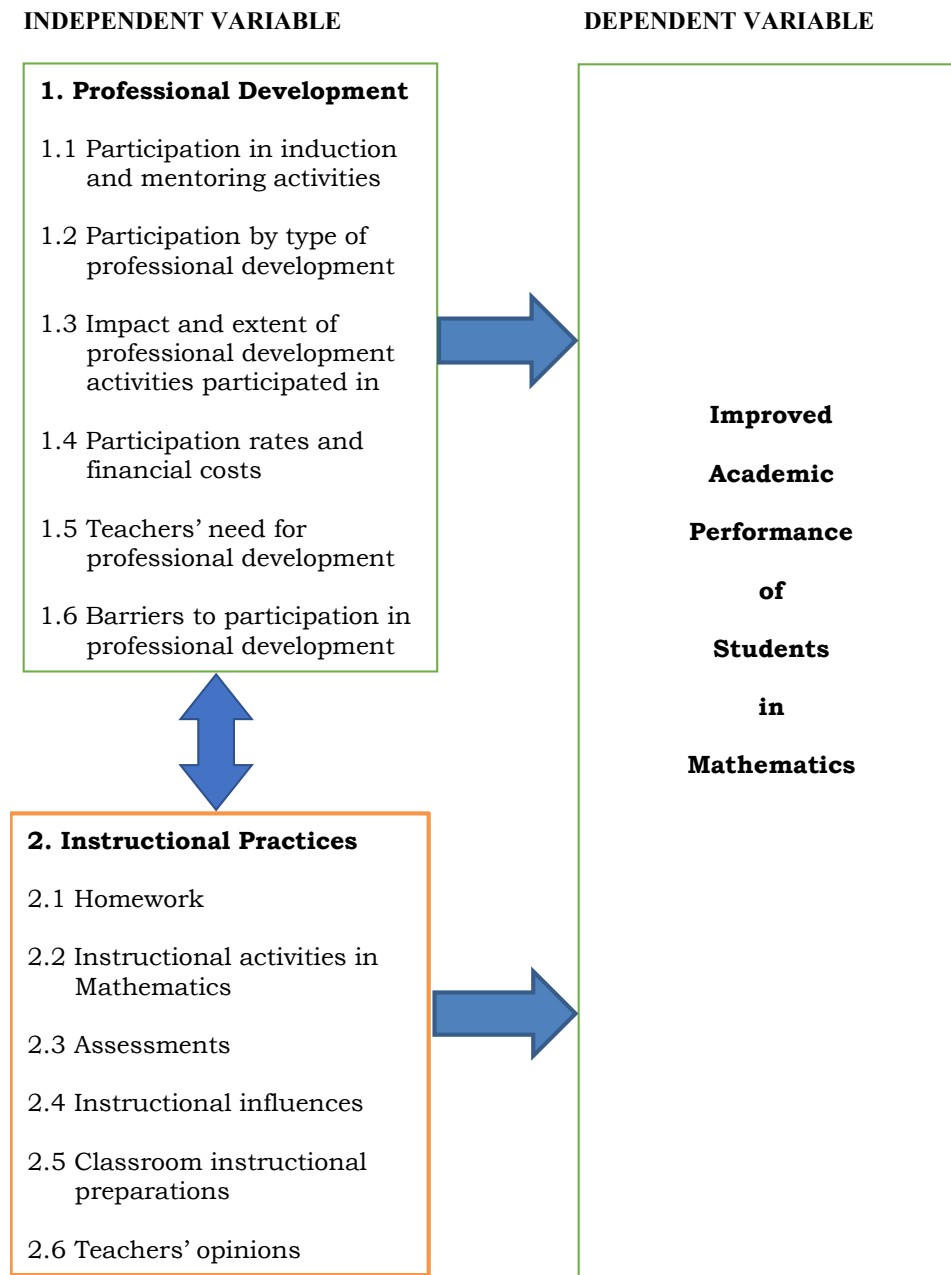


Figure 1. Paradigm of the study

### Statement of the Problem

This study attempted to assess the professional development, instructional practices of the teacher and their relationships to the academic performance of grade 5 and 6 mathematics students of Muang District Elementary Schools, Suratthani, Thailand. Specifically, it sought to answer the following questions:

1. What is the degree of professional development of administrator and teachers by schools in terms of the different areas:

- 1.1 Participation in induction and mentoring activities
- 1.2 Participation by type of professional development
- 1.3 Impact and extent of professional development activities participated in
- 1.4 Participation rates and financial costs

- 1.5 Teachers' need for professional development, and
- 1.6 Barriers to participation in professional development?
- 2. Is there a significant difference between the degree of professional development of administrators and teachers by:
  - 2.1 areas,
  - 2.2 respondents, and
  - 2.3 schools?
- 3. What is the extent of instructional practices of teachers by schools in terms of the different areas:
  - 3.1 Homework
  - 3.2 Instructional activities in mathematics
  - 3.3 Assessments
  - 3.4 Instructional influences
    - 3.5 Classroom instructional preparations, and
    - 3.6 Teacher opinions?
- 4. Is there a significant difference between the extent of instructional practices of teachers and
  - 4.1 the areas
    - 4.2 the respondents, and
    - 4.3 the schools?
- 5. What is the level of academic performance of students in mathematics according to grade levels?
- 6. Is there a significant difference between the level of academic performance of students in mathematics by Grade levels and by schools?
- 7. Is there a significant relationship between:
  - 7.1 professional development and instructional practices
  - 7.2 professional development and academic performance of students in mathematics,
  - 7.3 instructional practice and academic performance of students in mathematics?
- 8. What recommendations is deduced to improve the academic performance of students in mathematics?

## Hypotheses

- 1. There is no significant difference between the degree of professional development of administrators and teachers by:
  - 1.1 areas
    - 1.2 respondents, and
    - 1.3 schools.
- 2. There is no significant difference between the extent of instructional practices of teachers and the:
  - 2.1 areas
  - 2.2 respondents, and
  - 2.3 schools.
- 3. There is no significant difference between the level of academic performance of students in mathematics by Grade levels and by schools.
- 4. There is no significant relationship between:
  - 4.1 professional development and instructional practice
  - 4.2 professional development and academic performance of students in mathematics,
  - 4.3 instructional practice and academic performance of students in mathematics.

## **Research Method**

The descriptive-correlational method was used because it is a fact-finding study with adequate and accurate interpretations of the findings. It describes with emphasis on what actually exists such as current conditions, problems, situations or any phenomena. It will test the three variables to find out their correlation or relationship.

## **Research Environment**

This study was conducted in Muang District Elementary Schools, Suratthani, Thailand. The Muang District is located at the center of Suratthani City which is 651 km south of Bangkok. It consists of 14 major elementary schools; 4 of which are EP (English Program) schools and 10 are Non-EP schools. Suratthani is the largest of the southern provinces of Thailand.

## **Respondents**

Data and information needed to answer the problems in the study were taken from Grades 5 and 6 Mathematics teachers and administrators of Muang District Elementary Schools, Suratthani City, Thailand. All Grades 5 and 6 students who were enrolled during the 1<sup>st</sup> semester for the school year 2017-2018 which the respondents are teaching, were also taken as secondary data. 14 schools are identified as school respondents, that is, 7 public schools and 7 private schools. 15 out of 36 or 41.67% are public school teachers while 21 out of 36 or 58.33% are private school teachers. For the school administrator respondents, 7 out of 14 or 50% are from public schools and the other half are from private schools. 72% of the respondents were teachers while 28% of the total respondents were school administrators.

## **Data Gathering Tools**

This study used the questionnaire for the teacher professional development which was adapted and modified from the Organization for Economic Co-operation and Development (OECD) – Teaching and Learning International Survey (TALIS) of 2013 while the questionnaire for the instructional practice was adapted and modified from the Survey of Instructional Practices Teacher Survey Grades K-8 Mathematics, Council of Chief State School Officers Wisconsin Center for Educational Research, U.S.A.

## **Data Gathering Procedures**

Before doing the actual data collection, the researcher sought the approval and secured a written permission from the Ministry of Education Area Office in Suratthani, Thailand. When the researcher was given the permit, the same request was presented to the different directors of the different elementary schools in Muang District, Suratthani, Thailand. The researcher personally administered the questionnaire on teacher professional development and instructional practices.

## Statistical Treatment

The responses of the respondents were analyzed and interpreted using the following statistical tools: the frequency count and percentage were used to determine the proportion of respondents in each category against the total number of respondents. In testing the correlation between the dependent and independent variables and in testing their significant relationship, the paired t-test, ANOVA and the Pearson Product Moment of Correlation were used. The t-test for correlation was utilized in testing the significant difference. Results were tested at 0.05 level of significance.

## Results and Discussions

Table 1 below identifies the degree of professional development (PD) of administrators and teachers by schools in terms of participation in induction and mentoring activities. For *public schools*, it had a *weighted mean* of 2.79 which denotes a *high degree* of PD while *private schools* had a *weighted mean* of 3.05 which also denotes a *high degree* of PD in terms of the participation in induction and mentoring activities.

Schools	Public		Private	
	<i>Mean</i>	<i>Description</i>	<i>Mean</i>	<i>Description</i>
Administrators	2.89	High Degree	3.11	High Degree
Teachers	2.69	High Degree	2.98	High Degree
<i>Weighted Mean</i>	<i>2.79</i>	<i>High Degree</i>	<i>3.05</i>	<i>High Degree</i>

Table 1. The degree of professional development of administrators and teachers by schools in terms of participation in induction and mentoring activities

The succeeding Table 2 reflects the degree of PD of administrators and teachers by schools in terms of participation by type of PD. For *public schools*, it had a *weighted mean* of 2.53 which denotes a *high degree* of PD while the *private schools* had a *weighted mean* of 2.57 which denotes a *high degree* of PD in terms of the participation type of PD.

Schools	Public		Private	
	<i>Mean</i>	<i>Description</i>	<i>Mean</i>	<i>Description</i>
Administrators	2.44	High Degree	2.51	High Degree
Teachers	2.61	High Degree	2.62	High Degree
<i>Weighted Mean</i>	<i>2.53</i>	<i>High Degree</i>	<i>2.57</i>	<i>High Degree</i>

Table 2. The degree of professional development of administrators and teachers by schools in terms of participation by type of professional development

Table 3 below describes the degree of PD of administrators and teachers by schools in terms of the impact and extent of PD activities they participated in during the last 12 months. For *public schools*, it had a *weighted mean* of 2.70 which denotes a *moderate positive impact* or *high degree* of PD while the *private schools* had a *weighted mean* of 2.71 which denotes a *moderate positive impact* or *high degree* of PD in the activities they participated in.



Schools	Public		Private	
	<i>Mean</i>	<i>Description</i>	<i>Mean</i>	<i>Description</i>
Administrators	2.62	Moderate positive impact or High Degree	2.88	Moderate positive impact or High Degree
Teachers	2.77	Moderate positive impact or High Degree	2.53	Moderate positive impact or High Degree
<i>Weighted Mean</i>	<i>2.70</i>	<i>Moderate positive impact or High Degree</i>	<i>2.71</i>	<i>Moderate positive impact or High Degree</i>

Table 3. The degree of professional development of administrators and teachers by schools in terms of the impact and extent of professional development activities they participated in

The next Table 4 reveals the degree of PD of administrators and teachers by schools in terms of the participation rates and financial costs. *Public schools* had a *weighted mean* of 2.09 which denotes *low degree* or *sometimes* they have to pay while *private schools* had a *weighted mean* of 2.02 which denotes *low degree* or *sometimes* they also have to pay for their PD.

Schools	Public		Private	
	<i>Mean</i>	<i>Description</i>	<i>Mean</i>	<i>Description</i>
Administrators	2.24	Sometimes or Low Degree	2.17	Sometimes or Low Degree
Teachers	1.94	Sometimes or Low Degree	1.86	Sometimes or Low Degree
<i>Weighted Mean</i>	<i>2.09</i>	<i>Sometimes or Low Degree</i>	<i>2.02</i>	<i>Sometimes or Low Degree</i>

Table 4. The degree of professional development of administrators and teachers by schools in terms of the participation rates and financial costs

Table 5 shows the degree of PD of administrators and teachers by schools in terms of the teachers' need for PD. *Public schools* had a *weighted mean* of 3.19 which denotes *high degree* or *moderate level of need* while the *private schools* had a *weighted mean* of 3.32 which also denotes *high degree* or *moderate level of need* for a PD in terms of the teacher's need for PD.

Schools	Public		Private	
	<i>Mean</i>	<i>Description</i>	<i>Mean</i>	<i>Description</i>
Administrators	3.28	High Degree or Moderate level of need	3.40	High Degree or Moderate level of need
Teachers	3.10	High Degree or Moderate level of need	3.24	High Degree or Moderate level of need
<i>Weighted Mean</i>	<i>3.19</i>	<i>High Degree or Moderate level of need</i>	<i>3.32</i>	<i>High Degree or Moderate level of need</i>

Table 5. The degree of professional development of administrators and teachers by schools in terms of the teachers' need for professional development

Table 6 describes the degree of PD of administrators and teachers by schools in terms of the barriers to participation in PD. *Public Schools* had a *weighted mean* of 2.70 which denotes *high* degree or *agree* while the *private schools* had a *weighted mean* of 2.35 which denotes *low* degree or *disagreement* to the barriers to participation in PD.

Schools	Public		Private	
	<i>Mean</i>	<i>Description</i>	<i>Mean</i>	<i>Description</i>
Administrators	2.86	Agree or High Degree	2.25	Disagree or Low Degree
Teachers	2.53	Agree or High Degree	2.44	Disagree or Low Degree
<i>Weighted Mean</i>	<i>2.70</i>	<i>Agree or High Degree</i>	<i>2.35</i>	<i>Disagree or Low Degree</i>

Table 6. The degree of professional development of administrators and teachers by schools in terms of the barriers to participation in professional development

Table 7 reveals the significant difference between the degree of PD of administrators and teachers by areas. Using *t-test* to identify the significant difference, it had the overall t-value of 0.80 and a p-value of 0.37 which means *insignificant* and implies the acceptance of the null hypothesis. As hypothesized, there was no significant difference between the degree of PD of administrators and teachers by areas. The result of this study proved the truthness of this hypothesis. This finding is supported by Kessels, C. (2010) who found that most induction programs were of a moderate to high intensity, consisting of more than 50 hours of support for beginning teachers. however, most teachers were very positive when asked whether an induction program in general was of value to beginning teachers' PD.

Different Areas of Professional Development	Mean	t-value	p-value	Interpretation/ Decision
1. Participation in induction and mentoring activities	2.72	0.88	0.40	Insignificant / Accept $H_0$
2. Participation by type of professional development	2.66	-0.79	0.45	Insignificant / Accept $H_0$
3. Impact and extent of professional development activities participated in	2.81	1.30	0.22	Insignificant / Accept $H_0$
4. Participation rates and financial costs	1.98	2.08	0.06	Insignificant / Accept $H_0$
5. Teachers' need for professional development	3.20	0.99	0.38	Insignificant / Accept $H_0$
6. Barriers to participation in professional development	2.40	0.41	0.69	Insignificant / Accept $H_0$
<i>Overall</i>	<i>2.63</i>	<i>0.80</i>	<i>0.37</i>	<i>Insignificant / Accept <math>H_0</math></i>

Table 7. The significant difference between the degree of professional development of administrators and teachers by areas.

Table 8 shows the significant difference between the degree of PD of administrators and teachers by respondents. Using *t-test* to identify the significant difference, the following are the results: *Administrators and teachers had 2.68 as weighted mean. It had a t-value of 1.86 and a p-value of 0.07 which is insignificant. It implies the acceptance of the null hypothesis.* This finding is in contrast with the findings of Hilton, A., et. al. (2015), Luke & McArdle (2009) and Southworth (2010). Their findings showed that school leaders' participation in teacher PD programs has a positive influence on the capacity for teachers to enact and reflect on new knowledge and practices and that in order for a school and its staff to continuously improve and be effective, lifelong learning for its teachers and administrators is fundamental.

Respondents	Mean	t-value	p-value	Interpretation/ Decision
Administrators	2.75	1.86	0.07	<i>Insignificant/ Accept Ho</i>
Teachers	2.61			
<i>Weighted Mean</i>	2.68			

Table 8. The significant difference between the degree of professional development of administrators and teachers by respondents

Table 9 reveals the significant difference between the degree of PD of the administrators and teachers by schools. Using *t-test* to identify the significant difference, public and private schools had 2.68 as weighted mean. It had a *t-value* of 0.35 and a *p-value* of 0.73 which is *insignificant*. It implies the *acceptance* of the *null hypothesis*. This result disagrees with Badri, M., et. al. (2016) who claimed that with regard to the perceived need for PD activities, the most significant variation is observed with regard to public or private schools and with regard to the impact of those activities, public schools also assign higher perceived impact scores for all activities that they participated in. This result also negates Guskey (2009) who said that school contexts differ drastically, and what works well in one setting may not work equally well in another.

Schools	Mean	t-value	p-value	Interpretation/ Decision
Public	2.69	0.35	0.73	<i>Insignificant/ Accept Ho</i>
Private	2.67			
<i>Weighted Mean</i>	2.68			

Table 9. The significant difference between the degree of professional development of the administrators and teachers by schools

Table 10 reflects the extent of instructional practices (IP) of teachers by schools in terms of homework. *Public and private schools had a weighted mean of 3.19 which means to a moderate extent or some 26-49 % of homework time for the school year.*

Schools	Mean	Description
Public	3.17	Some 26-49 % of homework time for the school year or to a moderate extent
Private	3.22	Some 26-49 % of homework time for the school year or

		to a moderate extent
<i>Weighted Mean</i>	<i>3.19</i>	<i>Some 26-49 % of homework time for the school year or to a moderate extent</i>

Table 10. The extent of instructional practices of teachers by schools in terms of homework

Table 11 identifies the extent of IP of teachers by schools in terms of instructional activities in mathematics. *Public and private schools had a weighted mean of 3.56 which means to a great extent or considerable 50% or more of individual work time on mathematical exercises, problems or tasks.*

Schools	Mean	Description
Public	3.49	Considerable (50% or more of individual work time on mathematical exercises, problems or tasks) or to a great extent
Private	3.63	Considerable (50% or more of individual work time on mathematical exercises, problems or tasks) or to a great extent
<i>Weighted Mean</i>	<i>3.56</i>	<i>Considerable (50% or more of individual work time on mathematical exercises, problems or tasks) or to a great extent</i>

Table 11. The extent of instructional practices of teachers by schools in terms of instructional activities in mathematics

Table 12 shows the extent of IP of teachers by schools in terms of assessment. *Public and private schools had a weighted mean of 3.34 which means to a moderate extent or 1 to 3 times per month of assessing students learning in mathematics class.*

Schools	Mean	Description
Public	3.30	1 to 3 times per month or to a moderate extent
Private	3.37	1 to 3 times per month or to a moderate extent
<i>Weighted Mean</i>	<i>3.34</i>	<i>1 – 3 times per month or to a moderate extent</i>

Table 12. The extent of instructional practices of teachers by schools in terms of assessment

Table 13 reveals the extent of IP of teachers by schools in terms of instructional influences. *Public and private schools had a weighted mean of 3.77 which indicates to a great extent or a positive influence while teaching the target mathematics class.*

Schools	Mean	Description
Public	3.75	Positive Influence or to a great extent
Private	3.79	Positive Influence or to a great extent
<i>Weighted Mean</i>	<i>3.77</i>	<i>Positive Influence or to a great extent</i>

Table 13. The extent of instructional practices of teachers by schools in terms of instructional influences

Table 14 reflects the extent of IP of teachers by schools in terms of classroom instructional preparations. *Public and private* schools had a *weighted mean* of 2.96 which means *to a moderate extent* or *well-prepared* in terms of classroom instructional preparations.

Schools	Mean	Description
Public	2.80	Well-prepared or to a moderate extent
Private	3.12	Well-prepared or to a moderate extent
<i>Weighted Mean</i>	<i>2.96</i>	<i>Well-prepared or to a moderate extent</i>

Table 14. The extent of instructional practices of teachers by schools in terms of classroom instructional preparations

Table 15 shows the extent of IP of teachers by schools in terms of teachers' opinions. *Public and private* schools had a *weighted mean* of 3.61 which means *to a great extent* or *strongly agree* in terms of teachers' opinions.

Schools	Mean	Description
Public	3.45	Agree or to a moderate extent
Private	3.76	Strongly Agree or to a great extent
<i>Weighted Mean</i>	<i>3.61</i>	<i>Strongly Agree or to a great extent</i>

Table 15. The extent of instructional practices of teachers by schools in terms of teachers' opinions

Table 16 reveals the significant difference between the extents of IP of teachers by areas. Using *t-test* to identify the significant difference, the results had an overall *t-value* of 47.479 and a *p-value* of 0.001 which is *significant*. It implies the *rejection of null hypothesis*. Though it was hypothesized that there was no significant difference between the extent of the IP of teachers and the areas, the result however, is the other way around. This result is supported by the study of Rosario, P., et. al. (2015) that showed that three types of homework follow-up practices (checking homework orally, checking homework on the board, collecting and grading homework) had a positive impact on students' performance.

Different Areas of Instructional Practices	Mean	t-value	p-value	Interpretation/ Decision
1. Homework	3.194	67.096	0.001	Significant/ Reject Ho
2. Instructional activities in Mathematics	3.560	65.308	0.001	Significant/ Reject Ho
3. Assessment	3.336	36.381	0.001	Significant/ Reject Ho
4. Instructional influences	3.767	62.610	0.001	Significant/ Reject Ho
5. Classroom instructional preparations	2.960	22.622	0.001	Significant/ Reject Ho
6. Teachers' opinions	3.607	32.477	0.001	Significant/ Reject Ho
<i>Overall</i>	<i>3.404</i>	<i>47.749</i>	<i>0.001</i>	<i>Significant/</i>

				<i>Reject Ho</i>
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Table 16. The significant difference between the extents of instructional practices of teachers by areas

Table 17 indicates the significant difference between the extent of IP of teachers by respondents. Using *t-test* to identify the significant difference, the results showed a weighted mean of 3.52. It had a *t-value* of 4.520 and a *p-value* of 0.001 which is *significant*. It means the *null hypothesis is rejected*. As hypothesized, there was no significant difference between the extent of IP of teachers by respondents. However, the result showed the opposite – a significant difference. This finding relates with the analysis of Teaching and Learning International Survey (TALIS) 2008 data that demonstrated a relationship between a number of school leadership and teacher level factors with higher levels of teacher self-efficacy, including teachers' participation in collaborative forms of PD, teachers' appraisal and feedback of their work, and teachers' use of greater variety of teaching practices in the classroom (Vieluf, et.al., 2012).

Respondents	Mean	t-value	p-value	Interpretation/ Decision
Administrators	3.63	4.520	0.001	<i>Significant/ Reject Ho</i>
Teachers	3.40			
<i>Weighted Mean</i>	3.52			

Table 17. The significant difference between the extent of instructional practices of teachers by respondents

Table 18 below illustrates the significant difference between the extent of IP of teachers by schools. Using *t-test* to identify the significant difference, it showed that public and private schools had a weighted mean of 3.41. It had a *t-value* of -2.055 and a *p-value* of 0.046 which is *significant*. It implies the *rejection* of the *null hypothesis*. This result harmonizes with the study of the University of Illinois at Urbana-Champaign (2009) which claimed that education professors have found that public-school students outperformed their private-school classmates on standardized math tests due to certified math teachers and a modern, reform-oriented math curriculum. This result also confirms Khun-Inkeeree, H., et. al. (2016) that claimed that Thailand's private schools show better performance as compared to public schools.

Schools	Mean	t-value	p-value	Interpretation/ Decision
Public	3.33	-2.055	0.046	<i>Significant/ Reject Ho</i>
Private	3.48			
<i>Weighted Mean</i>	3.41			

Table 18. The significant difference between the extent of instructional practices of teachers by schools

Table 19 shows the level of academic performance of students in mathematics according to grade levels. In Grade 5, the average academic performance is 3.31 which means *good* performance while in Grade 6, the average academic performance

is 3.11 which also means *good* performance. The *weighted mean* of the academic performance in the two levels is 3.21 which means *good* academic performance in mathematics.

Grade Level	Academic Performance	Description
Grade 5	3.31	Good
Grade 6	3.11	Good
<i>Weighted Mean</i>	<i>3.21</i>	<i>Good</i>

Table 19. The level of academic performance of students in mathematics according to grade levels

Table 20 describes the significant difference between the level of academic performance of students in Mathematics by grade levels and by schools. Using paired sample *t-test* to identify the significant difference, the results showed an overall mean value of 3.35 for grade 5 and grade 6 public and private schools. It had *t-value* of 1.915 and a *p-value* of 0.006 which is significant. Therefore, the *null hypothesis is rejected*. Thus, there was a significant difference between the level of academic performance in Mathematics by grade levels and by schools. This finding is consistent with the finding of Khun-Inkeeree, et. al (2016) who found that private schools perform better than public schools. Also, this finding agrees with the studies of Ameer, I.S. & Singh, P. (2012) who revealed that there was a significant difference in the numeracy performance between the grade levels.

Paired Sample Test	Mean	t-value	p-value	Interpretation/ Decision
Grade 5				
Public	3.83	-4.545	0.003	Significant/ Reject Ho
Private	2.87			
Grade 6				
Public	3.10	-4.578	0.003	Significant/ Reject Ho
Private	2.96			
<i>Overall for Grade 5 and Grade 6</i>				
Grade 5	3.35	1.915	0.006	<i>Significant/ Reject Ho</i>
Grade 6				

Table 20. The significant difference between the level of academic performance of students in Mathematics by grade levels and by schools

As can be seen in Table 21, there was ***significant relationship*** between the professional development (PD) and the instructional practices (IP). Using *Pearson correlation*, it has an *r-value* of -0.341 and a *p-value* of 0.001. This signifies the *rejection* of the *null hypothesis*. This means that there was a *significant relationship* between PD and IP. This result confirms the studies of Evers, et. al (2016) who said that “PD is necessary to fill in the gaps in the skill sets of new teachers, and to continue to develop the expertise of teachers”. Also, Rauf, et.al. (2017) showed that there is a positive significant relationship between school-based PD models and teachers’ IP. Lastly, YuSoe (2018) concluded that teachers who completed teacher PD

can implement more effectively than those who didn't complete the teacher PD such as teacher training, teacher induction program and mentoring program.

On the other hand, the relationship between the PD and the academic performance of students in mathematics was **insignificant** because it has an *r-value* of  $-0.027$  and a *p-value* of  $0.806$  which implies the *acceptance* of the *null hypothesis*. This result is quite surprising because most researchers claimed the other way around, namely; Hill, H.C., et. al. (2013) showed that PD is significantly linked to student achievement; Huffman, et.al (2010) regression analyses suggested that curriculum development for mathematics teachers was significantly related to student achievement; Parish (2013) indicated that 5th grade students whose teacher spent more hours in professional learning for continuous improvement had increased likelihood of scoring above the district median on curriculum-based assessments; and Carillo, C., et. al. (2016) showed that PD interventions are more likely to lead to positive (and significant) effects when math rather than reading comprehension is used as the outcome measure.

Finally, there was **no significant relationship** between the teachers' IP and the academic performance of students in Mathematics. Using *correlation*, it has an *r-value* of  $-0.052$  and a *p-value* of  $0.639$  which is *insignificant*. This denotes the *acceptance* of the *null hypothesis*. Again, this is another remarkable unexpected result as most studies showed the opposite of this result. To mention a few, here are some of the researches: Johnson, A. (2017) found that the data indicated a significant correlation between teacher practice and student growth; Kiptum (2018) concluded that there was a positive and significant relationship between teachers' instructional leadership and students' academic achievement; and Blazar (2016) found that student outcomes are predicted by teaching practices between teachers' classroom organization and students' behavior in class; and between teachers' math errors and students' math achievement.

With these findings, it is but proper to mention that perhaps additional evidence on these relationships can suggest specific hypotheses for the future study such as IP which in turn, will provide research evidence that could strengthen PD of teachers and the improvement of students' academic performance. Adding more respondents from all grade levels and extending the research environment to more districts can perhaps lead important empirical evidence to support a well-established theory on the multidimensional nature of teachers' IP and students' academic performance, and thus the need for teachers' PD policies that account for this complexity.

Variables		t-value	p-value	Interpretation/ Decision
Professional Development	Instructional Practices	-0.341	0.001	<i>Significant/ Reject Ho</i>
Professional Development	Academic performance of Students in Mathematics	-0.027	0.806	<i>Insignificant/ Accept Ho</i>
Instructional Practices	Academic performance of Students in	-0.052	0.639	<i>Insignificant/ Accept Ho</i>



	Mathematics			
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Table 21. The significant relationship between the professional development, instructional practices and the academic performance of students in Mathematics

## Conclusions

1. The degree of professional development (PD) of administrators and teachers by schools was *high* in terms of the following areas: participation in induction and mentoring activities, participation type of PD, the impact and extent of PD activities participated in, and the teachers' need for PD. However, it had a *low* degree in terms of the areas in participation rates/ financial costs and the barriers to participation in PD.
2. There was *significant difference* between the degree of PD of administrators and teachers and the different areas of PD; there was *significant difference* between the degree of PD of administrators and teachers and the different respondents; and there was *significant difference* between the degree of PD of administrators and teachers and the different schools.
3. The extent of instructional practices (IP) of teachers by schools in terms of the areas such as the instructional activities in mathematics, instructional influences, and teachers' opinions were of *great extent*. However, there were *moderate extent* in terms of the areas in homeworks, assessments, and classroom instructional preparations.
4. There was a *significant difference* between the extent of IP of teachers and the different areas of the IP. There was also a *significant difference* between the extent of IP of teachers and the different respondents. And there was a *significant difference* between the extent of IP of teachers and the different schools.
5. The levels of academic performance among Grade 5 and 6 students in mathematics were both *Good*.
6. There was a *significant difference* between the level of academic performance of students in mathematics and the Grade levels and the schools.
7. There was a *significant relationship* between the professional development (PD) and the instructional practices (IP). However, there was *no significant relationship* between the PD and the academic performance of students in mathematics. Finally, there was *no significant relationship* between the IP and the academic performance of students in mathematics.

## Recommendations

1. The teachers/administrators' professional development (PD) activities must be enhanced especially in the following areas: induction and mentoring activities; participation in the different type of PD such as courses/workshops, education conferences/seminars, observation visits, in-service trainings, network of teachers, and individual/ collaborative research. Math teachers/administrators must be encouraged to update their knowledge by attending in any PD programs in their field of specializations.

2. Surveys on PD Needs of mathematics teachers as well as administrators must be conducted regularly to ensure that the designed seminars/trainings/workshops/conferences will be in parallel and relevant to their actual *needs*, various activities/programs must be available for the teachers/administrators for the regular updating of their profession.
3. It is also recommended that the *great* extent of instructional practices (IP) of teachers by schools in terms of the instructional activities in mathematics, instructional influences and teachers' opinions must be maintained. On the other hand, the IP of teachers in terms of homeworks, assessments, and classroom instructional preparations must be strengthened.
4. The School as well as the Ministry of Education Area Office must regularly monitor the performance of mathematics teachers in terms of the different areas of IP such as homework, instructional activities in mathematics, assessment, instructional influences, classroom instructional preparations, and teachers' opinions. There must be regular in-service trainings for mathematics teachers.
5. The *Good* level of academic performance in mathematics among Grade 5 and 6 students must be improved. This must be reinforced in line with their actual needs and to jive with the emerging needs of the mathematically-inclined global students. Thus, it is recommended that there must be regular school-wide and city-wide activities for the mathematics.
6. It is also recommended that the Education Area Office must create a pool of Test Constructors whose sole task is to make a mini standardized test in mathematics so that there will be Centralized Mathematics Achievement Tests for all the schools and in specific levels.
7. It is further recommended to reevaluate the PD activities being offered and participated by the mathematics teachers. Also, it is encouraged to revisit/ reassess the IP of mathematics teachers as to whether or not it constantly adheres to the required/expected learning competencies in mathematics based on the updated curriculum focused on the authentic needs of the mathematics students.
8. It is finally recommended that future related studies such as other variables and predictors affecting the academic performance of students in mathematics, an in-depth systematic review and analysis of pre-service and in-service PD activities among mathematics teachers, and how the mathematics teachers cope with the dynamic IP involving authentic assessment among mathematics learners, are recommended in order to further enrich and strengthen the findings of this study.

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***Critical Thinking Research in the Philippines: A Scoping Review on Research Gaps***

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**Abstract**

This paper deals with scoping review of critical thinking studies done in the Philippines by Filipino scholars from 1971 to 2017. It examines the extent and nature of research activity to identify research gaps. The researchers utilized Arksey and O'Malley's (2005) five-stage methodological framework. Out of 142 documents gathered, 128 studies were included and classified into six major research areas, namely, curriculum and instruction, materials development, assessment, relationship of critical thinking to others, test development, and critical thinking and culture. Among those areas, critical thinking and culture is the least explored. For 47 years, studies focused on critical thinking ability with limited studies on critical thinking disposition. Immersion approach is the predominant approach in teaching critical thinking and in materials development. Majority of researches were designed for tertiary and secondary students with limited studies intended for elementary pupils. No study was conducted for pupils below grade 2. These findings suggest that research is needed in disposition aspect of critical thinking and for learners in kindergarten and elementary. Considering that immersion is the predominant approach used, Filipino scholars may explore other approaches to teaching critical thinking, namely, general, infusion, and mixed regarding enhancement of students' critical thinking and the application of infusion approach in embedding critical thinking into instructional materials in different academic disciplines. In conclusion, a vast majority of Filipino educators seem to have a narrow concept regarding critical thinking which they view predominantly as consisting of abilities alone to the neglect of an equally necessary component which is disposition.

*Keywords:* critical thinking, research gaps, scoping review

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## 1. Introduction

Critical thinking is considered one of the 21<sup>st</sup> century skills which individuals need to cultivate not only for academic reasons but more importantly for the mindful fulfillment of personal, civic, and professional responsibilities that are requisite for being productive and responsible members of this fast-changing and highly technological society (Hernandez, 2017; Huber & Kuncel, 2015; Shaheen, 2016; Wagner, 2014). Philippines being a democratic country, has a growing population of more than a hundred million people who need to think critically about relevant issues by way of articulating their reasonable and reflective stance and intelligent judgments not only to protect and uphold their rights and duties but also to be an instrument to the solution of sociopolitical as well as economic and moral problems that perpetually beset the country. This is possible only if people are trained to be fair-minded critical thinkers: individuals who are not controlled by their egocentric and sociocentric tendencies (Paul & Elder, 2014).

### 1.1. Critical thinking definition and its dual nature

Ennis (2013) defines critical thinking as “reasonable reflective thinking that is focused on deciding what to believe or do” (p. 36). His conception of critical thinking consists of two major aspects, such as, ability and disposition. The former pertains to cognitive dimension of critical thinking whereas the latter is associated with affective dimension in which the ultimate goal is fair-mindedness (Facione, 1990; Paul & Elder, 2014). Further, Bailin and Battersby (2016) and Johnson (2009) argue that individuals cannot be considered accomplished critical thinkers if they are only endowed with critical thinking abilities without the accompanying critical thinking dispositions, or vice-versa.

This duality of critical thinking major aspects is common among theoreticians who belong to critical thinking tradition. A. Fisher (personal communication, September 29, 2015) explained that critical thinking tradition pertains to those who originated and developed ideas about critical thinking like Dewey (though he called it ‘reflective thinking’), Glaser’s work was the next development of importance (his test), Ennis’ work (especially the Harvard review piece, but much more too), and Paul’s work (on fair-mindedness) was very distinctive.

### 1.2. Critical thinking in the Philippine schools

A number of Filipino educators have acknowledged the lack of critical thinking in Philippine schools (Dela Cruz, 2012; Guevara, 2018; Lugtu, 2018, Marquez, 2017). “Interestingly, the concern about deficient CT skills is not confined to any one country or region, but appears to span education systems around the world” (Stapleton, 2011, p. 14). Dela Cruz (2012) attributed this phenomenon to the kind of pedagogy that is rooted on rote memorization which the Philippine schools find it challenging to change

Similarly, Marquez (2017) reiterates that despite many of the subjects in basic education as well as courses taught in Higher Education in the Philippines integrated



the teaching of critical thinking, a great deal of Filipinos' critical thinking aptitude remains inadequate.

### 1.3. The rationale for conducting scoping review

Currently, there is no existing study that guides Filipino scholars on how much researches have been done in the area of critical thinking. There is an absence of conclusive research findings regarding grade levels, academic disciplines, and nature of CT research that have been the focus on studies done by Filipino scholars. These are some questions that can be addressed through scoping review in which the focus is synthesizing the comprehensive coverage of researches conducted regarding certain topic or issue (Arksey & O'Malley, 2005).

A scoping review is a form of knowledge synthesis that addresses an exploratory research question aimed at mapping key concepts, types of evidence, and gaps in research related to a defined area or field by systematically searching, selecting, and synthesizing existing knowledge (Colquhoun, Levac, O'Brien, Straus, Tricco, Perrier, Kastner, & Moher, 2014, pp. 1292-1294).

Overall, research gaps in this study pertain to identified nature of critical thinking studies and other research areas such as major aspects of critical thinking, grade levels, academic disciplines, critical thinking definitions used, measures used, and other factors that have not been explored yet and are still under-explored.

## 2. Methods

This study adopted Arksey and O'Malley's (2005) five-stage methodological framework for conducting scoping review. These methodological stages were identifying the research question, identifying relevant studies, study selection, charting the data, and collating, summarizing, and reporting the results.

### 2.1. Stage 1: Identifying the research question

This study focused on the question *What are the extent and nature of critical thinking studies in the Philippines that have been conducted and are still needed to be explored by Filipino scholars?* The main purpose of this question is to identify research gaps that may serve as research priorities for Filipino scholars interested to undertake critical thinking research. This study zeroes in on *what* and *how much* has been done and *what* still needs to be explored regarding critical thinking research in the Philippines.

### 2.2. Stage 2: Identifying relevant studies

The document types initially identified for relevant studies consisted of existing conference proceedings, concept papers, journal articles, book chapters, seminar papers, undergraduate and master's theses, and doctoral dissertations done by Filipino scholars in the Philippines. Relevant studies were searched using various electronic databases including Google Scholar and general internet Google search. However, we do not discount the possibility that there might have some pertinent documents that escaped our attention.

Considering that the Philippines has a total of 112 state universities and colleges (SUCs) and 1,710 private Higher Education Institutions (HEIs) (Commission on Higher Education, 2017) scattered all over 17 regions, we focused on researches done in universities and colleges within National Capital Region (NCR) which is commonly known as Metro Manila. The said documents from different HEIs within the said region were accessed by visiting personally their libraries and offices of different academic departments. In addition, main offices of different government agencies and education organizations within NCR were personally visited in which other copies of thesis, dissertation, and other pertinent documents dealing with critical thinking from different colleges and universities in NCR were accessed.

Interestingly, the inclusive year for the documents covered was from 1971-2017 which has a span of 47 years. This was established after all the needed documents had been identified and gathered.

### 2.3. Stage 3: Study selection

Visiting the library of all universities and colleges within NCR is beyond our capacity considering that NCR consists of 8 SUCs and 317 private HEIs (CHED, 2017). ); hence, we focused on studies conducted in those private HEIs and SUCs with curricular programs having designations of Center of Excellence (COE), Center of Development (COD), and HEIs with autonomous status which are all granted by CHED.

A total of 38 universities and colleges along with a number of government agencies across NCR were visited several times because photocopying of theses and dissertations were not allowed in most of the Philippine HEI libraries.

The inclusion criteria used in this study were empirical studies in the form of seminar paper, thesis, dissertation, journal article, book chapter, and conference proceedings; researches done by Filipino scholars and other nationalities affiliated with HEIs and other schools within NCR; HEIs in NCR with designations of autonomy, COE, and COD; published and unpublished studies written either in English or in Filipino only; and all studies that bear the phrase *critical thinking*, *masusing pag-iisip*, *mapanuring pag-iisip*, *kritikal na pag-iisip* in the research title.

By contrast, after some deliberations, we arrived at the criteria used for excluding the documents pertaining to critical thinking studies. These were documents which were not data-driven like concept paper, researches done outside of NCR, and journal articles which have been found as condensed version of thesis and dissertation that have already been included to avoid duplication of representation.

In the course of study selection, we did not attempt to do quality assessment of all documents that have satisfied inclusion criteria because the aim of scoping review is comprehensive coverage of the existing literature regarding topic or issue (Arksey & O'Malley, 2005).

### 2.4. Charting the data

Initially, a worksheet was used in preparation for abstracts along with concise bibliographic descriptions of all documents gathered. The abstract consisted of the main objective/purpose of the study, methodology, findings and conclusions, and recommendations. The said worksheet facilitated and systematized the preparation of data-charting form for analysis of studies included.

Further, there were six descriptors assigned for each abstracted document included for classification purposes of each study. These were the main objective of the study (descriptor 1), aspect of critical thinking focused on the study (descriptor 2), definition of critical thinking used in the study (descriptor 3), academic discipline where critical thinking is the research focus (descriptor 4), grade level in which the study was intended for (descriptor 5), and critical thinking measures used if there was any (descriptor 6). These were the pieces of information extracted from each study with the use of data-charting form and were essential specifically for tabular and chart presentations of frequency along with percentage of classified studies for determining the extent, range, and nature of critical thinking studies done by Filipino scholars.

The tabular and chart presentations consisted of frequency of classified outputs of HEI scholars in the NCR. The analysis focused on determining the frequency of outputs every ten years based on the six descriptors assigned for each study. The tabular and chart presentations showed the total pictures of available critical thinking studies that have been done in the NCR from 1971-2017.

After having classified and charted all the documents included, we have seen some recurring themes on the main objective of each document that served as basis for the formulation of descriptor 1 which has been categorized into six major research areas: curriculum and instruction, materials development, assessment, critical thinking in relation to other variables, test development, and critical thinking and culture. The reporting part of scoping review revolves around these six major research areas considered as nature of CT studies in the Philippines along with the rest of descriptors.

Overall, the vast majority of documents gathered were in the form of seminar paper, thesis, and dissertation which were considered terminal requirements for the obtainment of graduate and undergraduate degrees. Few research articles in journal form were gathered and included in the current study.

## 2.5. Collating, summarizing, and reporting the results

As has been mentioned, critical thinking studies included were classified thematically into six major research areas based on descriptor 1 which pertains to main objective of the study along with the rest of descriptors. Thus, the frequency along with percentage of 128 studies classified was presented thematically by decades that started from 1971-1980 up to 2011-2017. The presentation of results and discussions largely revolved around the classified documents based on descriptor 1 along with other descriptors. Research gaps for each of the six major research areas were presented in the discussion part.

### 3. Results

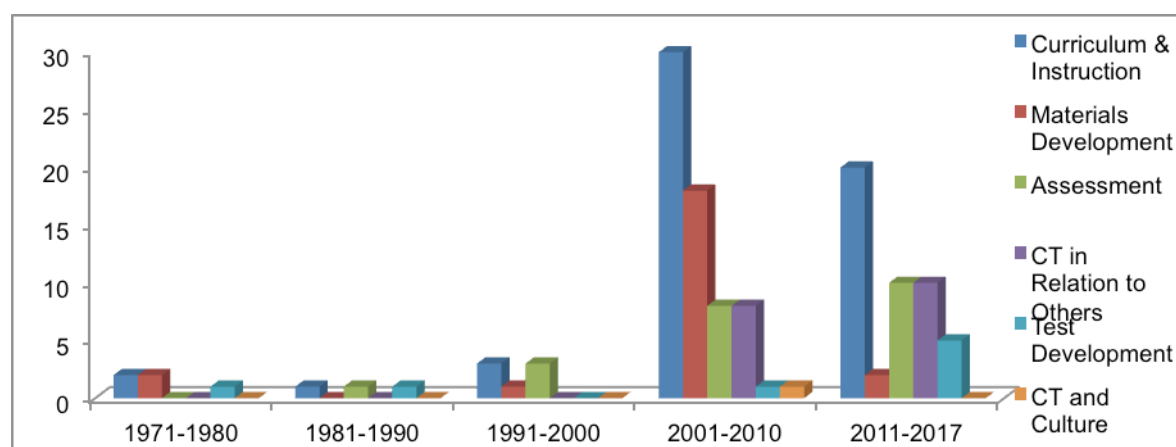


Figure 1. Summary of CT studies from 1971-2017

**Fig. 1** shows the total research outputs on critical thinking done by Filipino scholars. Nearly five decades were the coverage of the study which started in 1971 and ended in 2017 based on the first CT research completed. The 128 studies included in this study were categorized into six major research areas, namely, curriculum and instruction, materials development, assessment, critical thinking in relation to others, test development, and critical thinking and culture. Explanation of each major research area is provided in the discussion part.

	Curriculum and Instruction	Materials Dev	Assessment	CT in Relation to Others	Test Dev	CT and Culture	Total
English	9	14	4	0	0	0	27
Science	14	2	3	1	0	0	20
Psychology	1	0	4	6	5	0	16
Math	8	0	2	1	1	0	12
MedRel	2	0	7	3	0	0	12
Social Studies	7	3	0	0	1	0	11
Filipino	5	4	0	0	0	0	9
Info. Tech	2	0	0	3	0	0	5
Language Learning	0	0	0	3	0	0	3
SPED	2	0	0	0	1	0	3
Teacher Educ	1	0	1	0	0	1	3
Childhood Educ/Teaching Early Grades	3	0	0	0	0	0	3

Business	0	0	1	1	0	0	2
Ad							
Nutr/HE	1	0	0	0	0	0	1
LIS	1	0	0	0	0	0	1
Total	56	23	22	18	8	1	128

Table 1 *Frequency of Studies Done in Every Academic Discipline*

Table 1 shows the different academic disciplines that integrated critical thinking as the central component of the study from 1971-2017. The three disciplines that have the most number of studies conducted were English, Science, and Psychology with total numbers of 27 (21.09%), 20 (15.63%), and 16 (12.50%), respectively. The bulk of studies were mostly done in general education subjects.

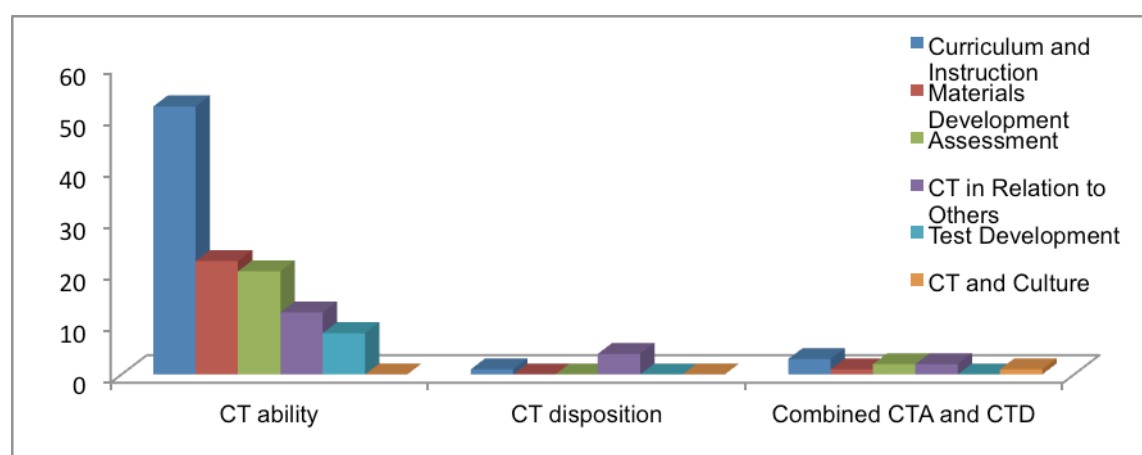


Figure 2. Frequency of major aspects of CT integrated in studies included

**Fig. 2** presents the major aspects of critical thinking, namely, ability and disposition, as integrated in the 128 (100%) researches which were categorized into six major research areas. From 1971-2017, a total of 114 (89.06%) studies focused on exploring critical thinking ability, followed by studies that investigated combined aspects of critical thinking ability and disposition with a total of 9 (7.03%) studies.

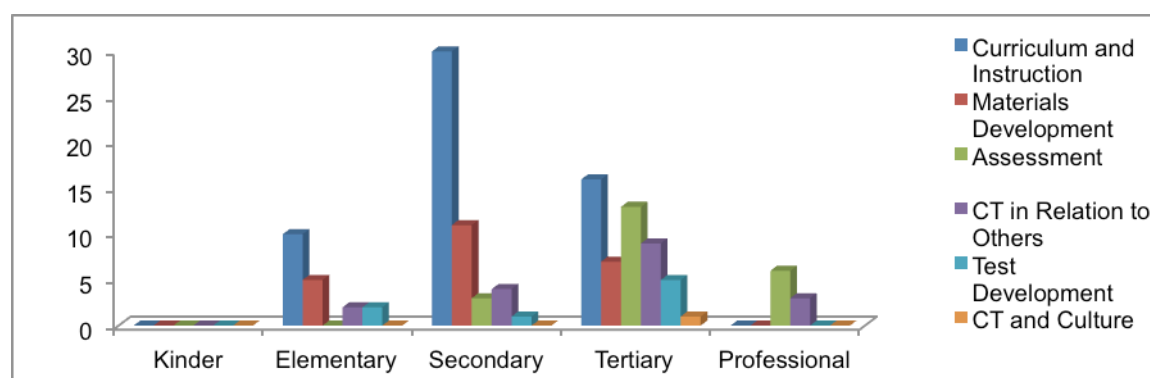


Figure 3. Frequency of grade levels as focused in six major research areas

**Fig. 3** indicates the number of studies conducted in different grade levels, namely, kinder, elementary, secondary, tertiary, and professional pertaining to 128 (100%) categorized studies from 1971-2017. The vast majority of studies were intended for

students who belong to tertiary and secondary levels with 51 (39.84%) and 49 (38.28%) researches, respectively.

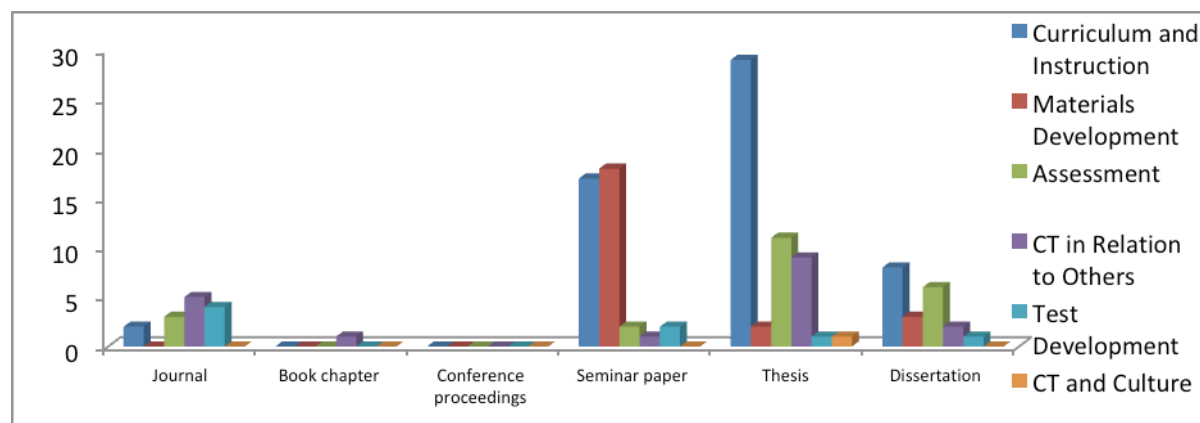


Figure 4. Frequency of document types as sources of CT studies included

**Fig. 4** shows six document types, namely, journal, book chapter, conference proceedings, seminar paper, thesis, and doctoral dissertation, which were the sources of 128 (100%) critical thinking studies. The bulk of the studies was in the form of thesis, seminar paper, and dissertation, with total outputs of 53 (41.41%), 40 (31.25%), and 20 (15.63%), respectively.

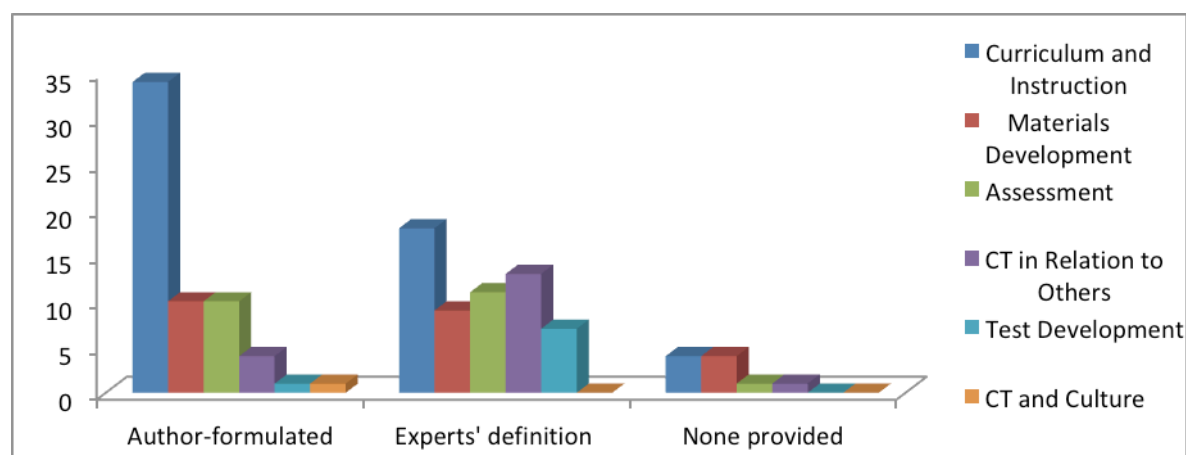
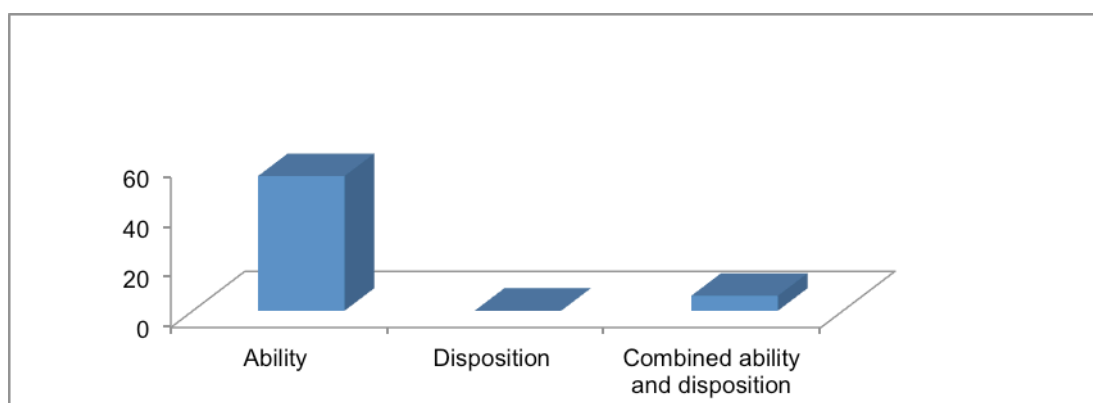


Figure 5. Frequency of definitions of CT as used in studies included

**Fig. 5** indicates that Filipino scholars either formulated their own critical thinking definition or adopted verbatim the critical thinking definition conceptualized by experts in the field.



*Figure 6.* Frequency of author-formulated definitions of CT categorized as ability, disposition, and combined ability and disposition

**Fig. 6** shows that 55 (90.16%) out of 61 (100%) author-formulated definitions of critical thinking were categorized as ability. The remaining 6 (9.84%) were categorized as a combination of ability and disposition. No definition was categorized as disposition alone. Categorization was based on whether ability component or attitudinal factors or both were the emphasis on the definitions of critical thinking formulated by Filipino scholars.

## 4. Discussion

### 4.1. Curriculum and Instruction

Curriculum and instruction is defined herein largely as pedagogical interventions specifically designed for the embedding of critical thinking abilities and dispositions to the discipline-specific contents in a curriculum as well as the offering of a separate critical thinking subject in which the cultivation of individuals' critical thinking is the ultimate goal. After a thorough examination of all documents selected, 56 studies were classified in this area. Considering the bulk of data and length of analysis in this area, we organized the discussion into six sections, namely, critical thinking aspects, academic disciplines, approaches to teaching critical thinking, transfer issue, grade levels, and critical thinking measures.

#### 4.1.1. CT Aspects

Interestingly, the vast majority of the studies in curriculum and instruction pertaining to critical thinking concentrated on exploring critical thinking abilities with some spillover on studies concerning critical thinking dispositions and the combination of both aspects. Out of 56 (100%) studies completed from 1971 to 2017, 52 (92.86%) of them focused on critical thinking ability, 1 (1.79%) for critical thinking disposition, and 3 (5.36%) for combined aspects of critical thinking.

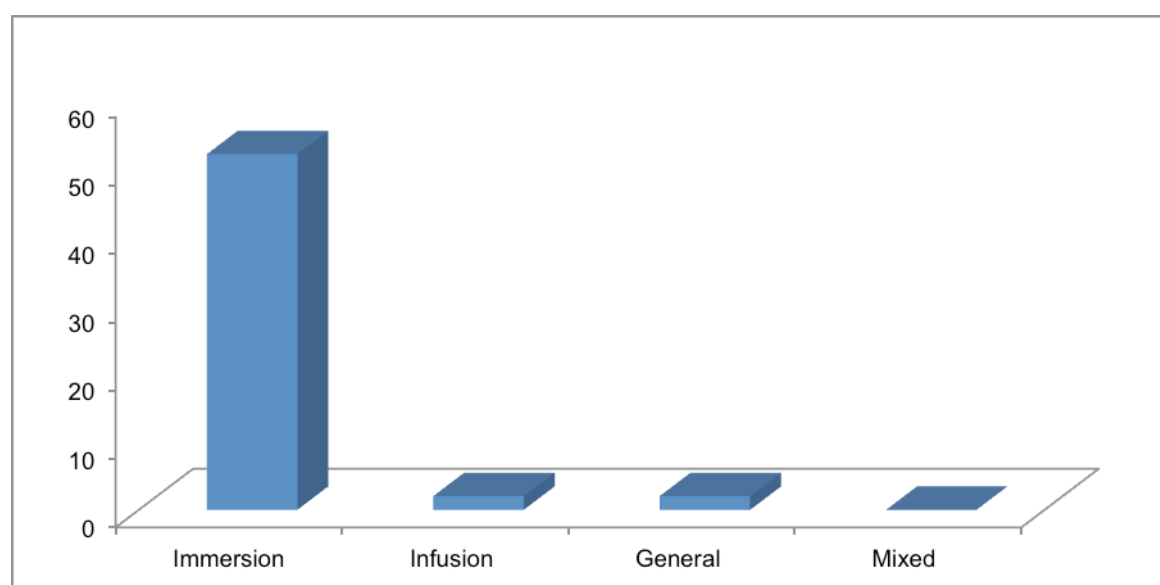
Further, study in this area that focused on disposition began to emerge in 2004 in the discipline of Filipino. Few studies which combined ability and disposition began to appear in the period of 2011-2017 in the disciplines of English, Mathematics, and Teacher Education. This may indicate that Filipino scholars should give equal emphasis on disposition and combined aspects of critical thinking, such as ability and disposition, in undertaking researches across disciplines and grade levels.

#### 4.1.2. Academic Disciplines

It is interesting to note that there were numerous disciplines that explored critical thinking in the area of curriculum and instruction (**Table 1**). Apparently, the bulk of researches in curriculum and instruction primarily focused on general education subjects in the Philippines.

Unfortunately, other academic disciplines specifically those that belong to professional education produced scanty amount of studies. These findings point to a research direction that Filipino scholars who belong to professional academic disciplines in HEIs may consider exploring further researches on critical thinking as regards curriculum and instruction.

#### 4.1.3. Approaches to teaching critical thinking



*Figure 7. Frequency of four basic approaches to teaching CT as adopted in the Philippines*

Considering the 47-year time frame of the current study, we view that Filipino scholars have focused on immersion approach to teaching critical thinking.

Having been classified as curriculum and instruction, these 56 (100%) empirical studies focused on instructional interventions and were primarily classified into three approaches to teaching critical thinking, namely, infusion, immersion, and general. Interestingly, only 2 (3.57%) studies dealt with infusion approach and 2 studies (3.57%) with general approach. The vast majority of studies with a total number of 52 (92.86%) employed immersion approach in teaching critical thinking (**Fig. 7**).

In sum, despite a number of studies that infusion approach is more effective than immersion approach, Filipino scholars are more inclined to adopting the latter than the former as evidenced in the researches they have produced. Hence, extensive research is needed concerning not only the effectiveness of infusion approach but also general and mixed approaches intended for Filipino learners across K-12 and college curriculum in the Philippines.



#### 4.1.4. Transfer issue

To date, no study has been identified in NCR that categorically problematizes transfer of critical thinking aspects acquired from one domain and successfully transferred to other domains. Research is needed in this area.

#### 4.1.5. Grade Levels

Most studies on curriculum and instruction have focused mainly on secondary and tertiary levels (**Fig. 3**). Few studies have been done on elementary level; in fact, no study has been done for learners below grade 2. Specifically, secondary and tertiary levels have the most number of studies which are 30 (53.57%) and 16 (28.57%), respectively. A total of 10 (17.86%) studies were intended for elementary pupils: three for primary level and seven for intermediate level.

Regrettably, no study has been found in the Philippines that has examined specifically the extent of capability of kindergarten, grade 1 pupils, and even much younger unschooled kids in successfully acquiring critical thinking abilities and dispositions. Further studies are needed to address these issues.

#### 4.1.6. Critical Thinking Measures

Interestingly, studies that deal with instructional interventions utilized critical thinking measures to determine their effectiveness. Filipino researchers utilized either a standardized or researcher-made critical thinking measures. A number of Filipino researchers used *Watson-Glaser Critical Thinking Appraisal* by Goodwin Watson and Edward Glaser and *Cornell Critical Thinking Test Level X* by Robert Ennis and Jason Millman. Some Filipino scholars utilized locally developed critical thinking tests namely, *Gutierrez' Critical Thinking Test* by Danilo Gutierrez and *The CEU-Lopez Critical Thinking Test* by Marcos Y. Lopez. This indicates that a test that measures both ability and disposition needs to be developed to capture the two major aspects of critical thinking.

### 4.2. Materials Development

Materials development for critical thinking is viewed as the process of developing learning materials designed for specific grade level of learners for the enhancement of critical thinking. From 1971 to 2017, a total of 23 (100%) research-based learning materials (**Table 1**) were developed which were in the form of undergraduate thesis, seminar paper, master's thesis, and doctoral dissertation.

Remarkably, 22 (95.65%) studies focused on critical thinking ability and only 1 (4.35%) study that infused both ability and disposition aspects of critical thinking. No study was found that concentrated on the integration of disposition aspect of critical thinking in relation to materials development. 11 of these learning materials were intended for high school students followed by tertiary and elementary with 7 and 5 outputs, respectively. No learning materials were developed below grade 2. Developing learning materials in critical thinking intended for kinder and elementary pupils should be considered.

Considering that the Philippines is a multilingual country, we find it surprising that there are no research-based learning materials on critical thinking using other major Philippine regional languages as a tool in acquiring critical thinking intended, specifically, for schoolchildren from kinder to grade 3. Research and development is needed in this area.

Following Ennis' (1992) description on approaches to embedding critical thinking in subject matter instruction, we believe that research is needed in developing learning materials using infusion approach.

The ultimate goal for individuals in learning critical thinking is not just to acquire it but to transfer it to other academic domains and most importantly, to a wide variety of real-world contexts (Halpern, 2014). Unfortunately, the vast majority of these learning materials did not include activities designed specifically for transfer of critical thinking principle to other contexts that are entirely different from the content of subject matter in which critical thinking principle was initially learned. This crucial issue on transfer in relation to learning materials on critical thinking is still largely an unexplored area among studies of Filipino scholars.

Overall, only 3 (13.04%) research-based learning materials used pre-experimental design in determining their effectiveness. The critical thinking measures used were *Watson-Glaser Critical Thinking Appraisal*, *Ennis-Weir Critical Thinking Essay Test* by Robert Ennis and Eric Weir, and researcher-made test. The remaining 20 (86.97%) learning materials were evaluated through a content review by a considered pool of experts in the disciplines using Likert-type questionnaires. Further validation of learning materials using experimental designs is needed in determining their efficacy.

#### 4.3. Assessment

In this study, critical thinking assessment is defined as the process of determining individuals' critical thinking ability and disposition by utilizing either widely used standardized critical thinking tests or researcher-made tests or questionnaires to examine individuals' strengths and weaknesses in critical thinking. The first study was completed in 1984 and the last research gathered was in 2016. One of the most striking results in studies on assessment is that 20 (90.91%) out of 22 (100%) of them focused on just assessing critical thinking ability. No study was undertaken on assessing critical thinking disposition alone. However, two (9.09%) studies were conducted in assessing combined major aspects of critical thinking, namely, ability and disposition.

Surprisingly, no studies were conducted on assessing critical thinking of kindergarten and elementary pupils across levels (**Fig. 3**), considering that elementary level is the crucial period when individuals are in concrete operational stage of cognitive development which suggests that they begin to think logically or reason about concrete events (Piaget & Inhelder, 2000). Some of them deal with assessing critical thinking of practicing professionals like nurses, science teachers, medical clerks, and other adult workers.

In brief, more researches on assessment are needed specifically for elementary pupils in order to determine if their critical thinking improves or deteriorates as they pass through from one grade level to the more advanced ones.

#### 4.4. Critical Thinking in Relation to Others

This focuses on studies on relationship of critical thinking to variables from different academic fields (**Table 1**). One study was conducted in 2001 relating language proficiency and mental ability to critical thinking and academic achievement of secondary students, and another study gathered was published in 2017 which examined the relationship between foreign language learning motivation and critical thinking motivation. The former was a master's thesis, whereas the latter was a book chapter.

Overall, the current study indicates that critical thinking disposition has not been thoroughly explored in the researches done in the area of critical thinking in relation to other variables. Thus, future researchers may focus on investigating critical thinking disposition and a combination of both critical thinking ability and disposition in relation to other variables.

#### 4.5. Test Development

This major research area on test development pertains to studies conducted in which the primary focus is on the development of critical thinking tests and the use of some procedures for further development and validation of existing critical thinking tests in the Philippines done by Filipino scholars. Discussion is organized into two sections: critical thinking tests developed and further procedures needed in test development.

##### 4.5.1. Critical Thinking Tests Developed in the Philippines

For 47 years, five (3.91%) researches were done on test development intended for Filipinos. These five critical thinking tests were classified as multi-aspect critical thinking test which assesses more than one aspect of critical thinking deemed most basic and important for the level of sophistication of target users (Ennis, Millman, & Tomko, 2005).

These five critical thinking tests assess different aspects of critical thinking ability each based on critical thinking concepts. Two of these critical thinking tests were constructed for grades 6 and 3 for elementary. There is no critical thinking test for grades 4 and 5 and for pupils below grade 3. Further, there is no critical thinking test developed for elementary pupils which is single-aspect general-content or subject-specific. There is no critical thinking tests developed for secondary students below fourth year whether multi-aspect or single aspect general content or subject-specific. Concerning tertiary level, there is one critical thinking test that is multi-aspect subject-specific and another one which is multi-aspect general-content. Research and development is needed on how critical thinking dispositions could be directly and efficiently tested along with critical thinking ability.

Also interested researchers can consider the immense possibility of constructing critical thinking tests, either multiple-choice or open-ended type, using different Philippine languages.

#### 4.5.2. Test Development Procedures

Concerning this section, three (2.34%) research articles on test development procedures were published. Each of which dealt with *The CEU-Lopez Critical Thinking Test* (Lopez, 2012), a multi-aspect general-content based critical thinking test for tertiary students.

Researches focusing on other validation procedures on the existing critical thinking tests in the Philippines have not been conducted like predictive validity, concurrent validity, convergent validity, cultural validity, and others. Further, other scholars interested to develop more critical thinking tests may explore other critical thinking taxonomies as initial yet quite necessary step in test construction.

#### 4.6. Critical Thinking and Culture

There is limited empirical research investigating the role of culture in relation to critical thinking (Lun, Fischer, & Ward, 2010) which is true in the Philippine research landscape. From a total of 128 studies included starting year 1971 to 2017, only one (0.78%) research was found to have been conducted by a Filipino researcher who compared the similarities and differences in the concepts of critical thinking between two different groups, such as, Filipino and German and within each group of respondents in terms of analytic definition of critical thinking concept. Further studies could be explored in this area which is an emerging critical thinking issue that may interest Filipino scholars.

### 5. Conclusion

Considering its delimitation, we view that this scoping review conducted may not represent the entire picture of critical thinking research in the Philippines. However, having considered NCR, where premier universities are located in which a great number of Filipino researchers from different regions study and pursue further degrees and their study samples were taken from different regions, we believe that our findings may depict, to a great degree, the extent and nature of critical thinking research in the country.

Notably, the bulk of studies was conducted in the two consecutive periods of 2001-2010 and 2011-2017. This could be attributed, partly, to information explosion phenomenon which calls for people to think critically to distinguish fake news from legitimate ones and be able to make sense of the information and ideas acquired. With the said phenomenon, Filipino scholars seem to have become more fascinated with exploring critical thinking as a research topic.

Considering that the bulk of studies had been devoted to secondary and tertiary students, we find it essential that research focus be directed to learners who belong to kindergarten and elementary levels.

Further, due to their rarity of critical thinking studies, professional subjects in the tertiary and even postgraduate levels may follow suit.

By and large, critical thinking research in the Philippines is still in nascent stage despite major areas and number of researches conducted from 1971-2017. A vast majority of Filipino educators seem to have a narrow concept regarding critical thinking which is predominantly cognitive as indicated in the emphasis of studies conducted. There is a lot to be explored in critical thinking which is indeed a rich and continuously developing discipline.

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***Case on the Switch of Numeral Form in Mathematics Textbook in Maharashtra, India***

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**Abstract**

Section 29(2)(f) of the Right of Children to Free and Compulsory Education (RTE) Act, 2009 provides that “the medium of instruction shall, as far as practicable, be in the child’s mother tongue.” Many research articles have emphasized the importance of teaching in the mother tongue but how important is teaching regional numbers in this converging global society? Maharashtra, a state in India, uses vernacular numerical system till class IV for mathematics only to completely shift to English numerals in class V while continuing the use of vernacular system for the rest of the subjects. This shift could be a major challenge for a child’s learning if not supported with expertise to ensure the shift smoothly. For the past 13 years the Annual Status of Education Report (ASER) has reported the flat learning trajectory and how children are not able to attain foundational literacy and numeracy. In such a scenario, the shift of numerals can further widen the learning gap. ASER Centre recently conducted a pilot asking children aged between 4 to 8 years to read vernacular (Marathi) numbers and English numbers from 1 to 99 – on an average children could identify 15% more English numbers than Marathi numbers. Children’s exposure to English numbers through currency, television, smartphones which are easily accessible to the lower economic strata of the population build a natural understanding of English number system outside of the academic ecosystem. Is it really necessary to make the children go through this shift is a question to ask.

Keywords: Language, Mathematics, Education, Numbers, Right to Education, Primary Education

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## Introduction

Thomas Dye described public policy as ‘anything a government chooses to do or not to do’. Expanding on further, public policy refers to the decisions that the government makes for the general public. Policies are not made overnight; instead, they come through after a tiring and tedious process with multiple stages involving a lot of back and forth. India is a multilingual country and its language policy continues to be debated even after 72 years of Independence. Language is a medium to communicate and help understand the concepts of science, geography, maths, history, etc. Studies have found evidence to suggest that the mother-tongue as a medium of education leads to better academic performance. The Education policy in India has also recognised its importance and under section 29(2)(f) of the Right of Children to Free and Compulsory Education (RTE) Act, 2009 provides that “the medium of instruction shall, as far as practicable, be in the child’s mother tongue”.

Maharashtra, a state in India, uses Devanagari numerical system till class IV for mathematics only to completely shift to English numerals from class V onwards. The policy goal is to preserve regional numbers and ease children’s understanding of numbers at the primary level by using regional number names and by introducing English numbers later it aims to prepare children for the converging global society. However, Annual Status of Education Report (ASER) reports have pointed out that children are not attaining grade level competency. As per their latest report, ASER 2018 about 24% children in Std IV could not identify 2-digit numbers. This paper hopes to point out that the language for Mathematics is an **inconsistent policy tool** for the policy goal of multilingualism and is creating an additional constraint in learning Mathematics for children. Taking the case of Maharashtra specifically, the paper follows a mixed approach to analyse the loopholes in the policy using qualitative and quantitative analysis.

## Background

India is one of the countries that have the highest number of languages in the world . The Linguistic Diversity Index ranks India at 14 as per SIL International, 2017. As per the Census of India 2011- Linguistic survey of India, 121 languages are considered as mother tongues<sup>1</sup> and of these, 22 languages are included in the Eighth Schedule to the Constitution of India and are called Scheduled languages. Of the total population of India, 96.71 percent have one of the Scheduled languages as their mother tongue, the remaining 3.29 percent is accounted for by other languages. 43.6 percent of the population in India has Hindi as their native language, followed by Bengali – 8.03 percent and Marathi – 6.86 percent. As the Census data suggest, India is a multilingual country and there is no national language. As per the Part XVII of Constitution of India, Chapter 1-Articles 343 and 344, has defined two official languages (the language used by the government) of India - Hindi, written in Devanagari script, and English. It also states that “The form of numerals to be used for the official purposes of the Union shall be the international form of Indian numerals.” However, the President can authorize the use of the Devanagari form of

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<sup>1</sup> As per Census, ‘Mother tongue is the language spoken in childhood by the person’s mother to the person.’

numerals<sup>2</sup> in addition to the international form of Indian numerals<sup>3</sup> for any official purposes for a certain period. As per Article 345 of the Indian Constitution, “the Legislature of a State may by law adopt any one or more of the languages in use in the State or Hindi as the language or languages to be used for all or any of the official purposes of that State”.

As per Howlett, political systems define state policy capacity and the process followed in making and implementing policies. India has a federal political system, wherein there exist two autonomous levels of government - central and state level government. They are not bound together in a subordinate relation and enjoy discretion as guaranteed by the Constitution. Education policy is made by the central government and state government at the national and state level respectively. The National Council of Educational Research and Training (NCERT), thus, makes curriculum-related policy at the national level. Similarly, there are state government bodies that make policies on state curriculum practices. There have been various researches on the importance of education in the child's mother tongue medium. The Indian Constitution has also recognised the importance of mother tongue as a medium of instruction, Article 350A states that “it shall be the endeavour of every State and of every local authority within the State to provide adequate facilities for instruction in the mother-tongue at the primary stage of education to children belonging to linguistic minority groups; and the President may issue such directions to any State as he considers necessary or proper for securing the provision of such facilities.’ All children of the age of six to fourteen years old are entitled to free and compulsory education under the RTE Act 2009. It also provides under Article 29 (2)(f) that the “medium of instruction shall, as far as applicable, be in child's mother tongue”. According to , the number of languages used as medium of instruction has reduced significantly. While most private schools has English as their medium of instruction, almost in all government schools children are taught in their regional language.

To facilitate teaching in mother tongue and to have a common language taught across India for ease of communication the “Three-Language Formula” was formulated in 1968 by Ministry of Education, Government of India. The formula provided that in Hindi speaking states, children will be taught Hindi, English and one other Indian language. The policy proposed that children in Hindi speaking states preferably learn one south Indian language to promote multilingualism. For non-Hindi speaking states, the formula mentioned that children be taught Hindi, English and their regional language. The three-language policy has received criticism for imposing teaching of Hindi to all states in India. The Chief Minister of Tamil Nadu, 1967-1969, opposed to teach Hindi in Tamil Nadu, “What serves to link us with the outside world is certainly capable of rendering the same service inside India as well”. The three-language formula has been accepted in most of the states of India but the pattern of instruction is not identical and varies in-between states, depending on their language policy.

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<sup>2</sup> Devanagari form of numerals are from the Devanagari script used in Hindi speaking states of India and Maharashtra

<sup>3</sup> International form of Indian numerals here means normal English number.

## Regional numeral forms and Education Policy

In India, not all languages have its own form of numerals. Out of the 22 scheduled languages as defined in the eighth schedule of the Constitution, only 10 have its own form of numerals – Gujarati, Punjabi, Bengali, Odia, Telegu, Kannada, Tamil, Malayalam and Devanagari (used both in Hindi and Marathi). However, the usage of these regional form of numerals has declined. Numerals of south Indian languages like Kannada, Malayalam, Tamil, and Telegu, have become archaic and are rarely used. Devanagari, Bengali, Odia, Gujarati and Assamese numerals are taught in school to students. In the state of West Bengal, Bengali numbers are used in their Mathematics book throughout the schooling years. While in Maharashtra, Gujarat, Odisha and Assam children are taught Mathematics using the regional form of numerals till primary (up to Std IV) and then it is switched to English numerals Std V onwards. As mentioned in the introduction, the policy aims to achieve multilingualism agenda. Considering these numerals are used extensively across the state, and that mother tongue also includes regional number names, the policy aims to preserve traditional regional numerals and ease children's learning of Mathematics. By introducing English numerals at a later stage the policy targets to prepare children for the globalising society. In many other places around the world this kind of a switch happens as well like in Myanmar. This paper discusses how this policy can act as an hurdle in learning of children in the context of India.

## Quality of Education in India

Education policy are supposed to make the learning easier for children but not all policy tool gets implemented as planned. Failure to consider the context can lead to major gaps in policy goal and policy results. The Right of Children to Free and Compulsory Education Act, 2009 has ensured near-universal enrolment in schools. However, low attendance of children and poor quality of education in schools has created a major learning gap. The World Development report 2018 correctly points out the challenge that India is facing, 'Schooling is not the same as learning'. As per the Annual status of education report (ASER), India has almost reached universal enrolment with out of school children standing at 2.8% as per ASER 2018 report. However, the learning trajectory remains flat. India ranked 103 on 130 in the World Economic Forum - Global Human Capital Report, 2017. In the Education Index<sup>4</sup> by the United Nations, India ranked at 135 out of 187 countries in 2013.

There has been a number of learning assessments done internationally as well as national and state level. India had participated in the **Program for International Student Assessment (PISA)**<sup>5</sup> in 2009 and ranked 72 out of the 74 countries and since then the country decided to not participate in it anymore. Since 2005, **Annual Status of Education Report (ASER)**<sup>6</sup> has reported that children have been not acquiring the

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<sup>4</sup> The Education Index is Calculated using mean years of schooling and expected years of schooling

<sup>5</sup> PISA is a test for secondary school students that assesses subjects – science, mathematics, and reading. The test is done across major countries and aims to create comparable evidence on the learning outcomes of children around the world. It aggregates the performance of children and ranks countries accordingly. PISA test started in 2000 and is done every three years.

<sup>6</sup> ASER Centre, the independent research wing of the Pratham Education Foundation (PEF) has been conducting the Annual Status of Education Report (ASER) survey for the last 13 years, the only nationally

foundational reading and arithmetic ability and that the learning trajectories has remained flat. The latest report, ASER 2018 was conducted in 596 rural districts in India and around 5.40 lac children were tested on foundational literacy and numeracy. Of all children enrolled in Std V, 50.3% of children could read at least an Std II level text and only 27.8% children in Std V could divide (3-digit by 1-digit division). In the **National Achievement Survey (NAS)**<sup>7</sup> conducted in 2017 by NCERT, the average score of class V children in Mathematics stood at 53% and for class VIII children it was 42%.

It is often the teachers who are blamed for the poor learning outcomes because they are unskilled, but that's the symptom and not the cause. The teacher candidates also come from the same low-quality schools with poor content knowledge and the pre-service education programs do not appear to be helping. There exists no selection criteria for the pre-service education programs and anyone can apply to become a teacher. The teaching profession is also considered as the lender of the last resort for most of the unemployed people in India. The poor quality of teachers graduating from these programs is evident with the low pass rates in teacher eligibility tests. Even after clearing necessary exams the content knowledge seems to be lacking. In a study of Bihar teachers, average subject knowledge of teachers was found to be weak, with the mean score in language at 45% and math at 51% (Sinha S, Banerji R and Wadhwa W 2016). Classroom practices such as reading aloud, writing on board, and no engagement with children are all associated with poor teaching. (P Kothari, R Rohatgi, D Agarwal, N Shukla and A Dwive 2016). In addition to the poor quality of teachers an 'over ambitious curriculum' and the usual practice of 'teaching to the top of the class', is further contributing to the current learning crisis.

Several assessments have reported that children are not able to cope up with the ambitious syllabus and with the poor quality of teachers, there is no mechanism within the school system to effectively address the needs of children who have fallen behind. Given the poor education levels, the mission of multilingualism seem a far-fetched goal. As mentioned earlier, in Maharashtra, Gujarat, Odisha, and Assam – children are taught Mathematics using regional numbers and it is switched to English numerals class V onwards. As per ASER 2018, 34.5% of children in grade III could not identify 2-digit numbers. Given that children are struggling to identify regional numbers, switching numbers from regional numbers to English numbers might add to the learning gap. The multilingual education is supposed to be a tool to improve education outcomes but how effective is it in improving academic performance is what is being analysed in the rest of the paper.

### **Case of Maharashtra: The switch of numeral form in Mathematics textbook**

Maharashtra is one of the states who has the regional numerals switch in their Mathematics textbook. In their grade V Mathematics textbook, the first chapter

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representative household survey on enrolment and basic learning levels in India. ASER conducts foundational numeracy and literacy tests of children aged 5-16 years old across all rural districts of India.

<sup>7</sup> The National Council for Educational Research and Training (NCERT) has been conducting the National Achievement survey periodically since 2001. NAS is designed as a school-based survey of students enrolled in Std III, V, and VIII in government and government-aided schools. It is a grade-level assessment based on class-wise, subject-wise learning outcomes developed by NCERT. The main subjects covered in this survey are Mathematics, Language, Sciences and Social Sciences.

orients children with the English numeral form before starting with the math concepts for that grade. As per the ASER data for Maharashtra<sup>8</sup>, 4.5% of Std IV children could not identify double-digit numbers in 2010 and after RTE the number has increased to 15.8% in 2018 (Fig 1). In the grade level assessment done under the NAS survey, grade III children could solve only 65% of the problems correctly grade V students could solve only 52% of the questions.

Considering 4 years of education in regional numerals form did not help them in identifying numbers, one chapter to cover an all new numeral form doesn't seem to be the correct approach to acquaint children with a new form of numeral. The new regional form and names are nowhere similar and can be hard to adapt for children, leading to further confusion and chaos in a child's mind. Additionally, given the poor quality of teachers in India, they are not equipped on how to make that switch for children to understand it easily.

The policy tool seem to create two problem – one, they do not help achieve their own agenda of multilingualism due to the poor learning outcomes as depicted in the survey data and second, it is further messing with the child's understanding of Mathematics.

### **Analysis of the Policy Tool**

While preparing for ASER 2019, which is focussed on early childhood education, ASER Centre piloted number recognition with children aged 4 to 8 years old in Maharashtra in both English and Devanagari numerals. The survey found out that children could recognize more English numerals than Devanagari numerals. The findings question the complexity of the numeral forms and children's exposure to the numerals. Exposure to language helps learning that language easier. As mentioned, the central government doesn't use Devanagari numbers in their formal documents and so does many state governments. But in Maharashtra, the regional numbers are used widely across the state. All notices and announcements by the government bodies have Devanagari numbers. The bus numbers at the bus stop, train numbers in boards, billboards, newspapers, the train and bus tickets all have Devanagari numbers. Even when numerals switch in Mathematics textbook, all other books continue to use regional numerals. It is important to note that while most of the signboards in Maharashtra have regional numerals but it is often accompanied by English numerals. The different commodity that people buy in their daily life has the price written in English numerals. According to ASER 2018, 90.2% of households had a mobile phone, which also gives children exposure to English numerals again. All the games that children play in mobile or video games, board games have numbers written in English numerals. So considering both numerals seem to work in the state, what is the best language to teach Mathematics and is the switch necessary to happen through Mathematics?

### **Role of Numeral forms and names in Mathematics**

Numbers acts as a base to understanding the Math concepts, it helps to relate the quantity on which various Math concepts are based on. While there is no generally

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<sup>8</sup> ASER uses the language taught to children in their primary school. In Maharashtra, Devanagari numbers tool is administered to children.



accepted definition of Mathematics, Aristotle defined it as “science of quantity”(Franklin J, 2009). Foundations of Mathematics start from pre-school where children are taught basic intuitive pre numeracy concepts. The Mathematics syllabus for primary classes (Std I-V) as prescribed by NCERT includes concepts like shapes, spatial understanding, numbers sequence and operations – additions, subtraction, multiplication and division, concepts of money, measurements, weights, time and initial data handling using bar graphs. A lot of this covers number based operations and children start to related number as quantity and identifies quantities with the numeral forms taught. In the upper primary class (Std VI-VIII) the mathematical concepts taught gets a little abstract with Algebra, ratios, symmetry, and introduction to probabilities. Considering a lot is covered at the very initial age it is important to focus on what can make the learning faster and more intuitive.

### **What is the best language for Mathematics?**

Given that children are exposed to both numeral forms and they are able to identify more English number than regional number, it is also important to understand which number names makes it easier for children to understand the quantity that numbers try to convey. While English number till 19 the place value comes first when “nineteen”, but post 20 all numbers have names like twenty-four where the place value comes later which help children understand the position of each digit in a number and making it clear that the number system is based on units of 10. When doing multi-digit addition and subtraction, children working with English number can understand that two-digit numbers are made up of tens and ones, making it easier to understand the concept of addition. While Devanagari number names have a different form of number names where the place value comes and then followed by the tens. For example, a number like 87 is called as ‘satyanshi’ in Marathi meaning seven-eighty. While mother tongue does play a role in learning these number names easily but it is important to also ensure children understand the concept behind numbers as smoothly as possible.

Considering Teachers play the most important role in implementing Education policies, there is a need that their views are taken into account when drafting changes in the policy. A short online survey was shared across Maharashtra to get views of the Grade V Mathematics teachers from government schools on what they think is the best language for Mathematics. A total of 63 teachers responded using the online link. 52% of the reported that they were not trained on how to help children make the language switch, 34% of teachers believe that this switch makes it difficult for children to understand Mathematics, 50% reported that Devanagari numbers are easier for children than English numbers, while 77% of teachers said that knowing both English and regional numbers is important, 42% believe that it is sufficient to teach Devanagari numbers as part of the Marathi language subject and is not necessary to be merged with Mathematics.

### **Recent Developments in the policy tool**

The government state curriculum department has recently introduced a new reading style of numbers being cognizant of the gap. The new instruction directs teachers to break down the pronunciation of numbers as written to help children easily understand the number system. There exists a lot of confusion currently as no clear

guidelines has been shared as the new instruction has recently been introduced. Mangala Naralikar, Mathematics committee chairman, Maharashtra State Bureau of Textbook Production and Curriculum Research, said, "We aim to teach children in the five-six-year old age group in a simpler way. Considering students who are the first literate generation in their family, or those students who do not have anyone literate in their home, these changes have been made to enable their learning." She also agreed that "Though their primary language is Marathi, they find English numbers easier to read and write. Our teachers have found this over the years. So, to make it simple, we want students to read these numbers as they write," she said. "A majority of the students get confused learning these numbers. For example, 87 - which is read as 'satyanshi' in Marathi, can now be read as 'ainshi' (80), plus 'saat' (7)," Naralikar added. "Importantly, we have an inclusive policy; which means the older version of reading numbers is also in place in textbooks," Naralikar says, adding, "Students can choose any, as both styles of reading numbers are correct. We are not changing anything in the Marathi language, only the style of reading the Marathi numbers we are upgrading. This is only from 20 to 100, and not above 100. This is also not a compulsion," she added (Hindustan Times 2019). The new policy seems to be a good step to ease children's learning of numbers however, it lacks clarity which will lead to many other confusion in policy implementation.

## Conclusion

John Campbell mentioned that a number of distinct idea sets go to into policy making: program ideas, symbolic ideas, policy paradigms and public sentiments. In the policy on usage of regional numbers in Mathematics textbook, symbolic ideas and public sentiments might have been considered but the policy contents fails to take into account the capability of the actors. As pointed in the paper both numbers are equally used in Maharashtra, while across the world English numbers are most commonly used. It is important to separate the language from Mathematics and choose the language which makes learning Mathematics easiest for the children. Familiarity with numbers, number names, teacher's capacity are few of the things that should be considered before deciding on the language for Mathematics. The subject has no link with different numeral forms and names and it is just a mode to ease the learning of many other important concepts and hence there is a need to separate the language from Mathematics. Multilingualism can be second priority and be introduced in the later stage but it is important for children to understand the Mathematics concepts well. In the effort to meet multilingualism one should not forget that it should not be at the cost of learning Mathematics. Considering that this is followed in many other states as well, it is important to consider this policy at the central level.

There is a need to filter the reality through the policy paradigm approach and analyse the policy content again. For instrument choices to be effective it must be closely related to policy goals. As Howlett mentioned, coherent goals with inconsistent tool leads to ineffective policy. Policy design is a task that involves more than policy formulation but also implementation if it has to be effective. It needs to look at the available resources and their capacity. The current policy tool has high constraints and is further affecting other policy goals – education.

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***Leveraging Massive Open Online Courses (MOOCs) for Increased Access and Quality Education in Nigeria***

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**Abstract**

The growing demand for higher education across the educational landscape in different contexts is impacting research in innovative ideas that may potentially transform the higher education system for increased access and opportunities for quality and affordable education. Massive Open Online Courses (MOOCs) are recent additions in higher education, over the last few years, researchers have predicted MOOC's potential to provide and increase access to quality education to an almost infinite number of people regardless of time, and location. Although MOOCs are not devoid of limitations, this paper argues that it's affordances and immense potentials for scalability and flexibility make it the appropriate tool for the 21st-century transformation of the higher education system, especially in mitigating the challenges of enrolment into the Nigerian university education system.

**Keywords:** Massive Open Online Courses (MOOCs), Higher Education, Open and Quality Education

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## Introduction

Higher education across the globe is affected by several impediments from uncertainty about its role in the society, misalignment of curriculum contents, fragmented functions within universities, sustainability issues and rising costs (Czerniewicz, Deacon, Small, & Walji, 2014). Nevertheless, these issues are more prevalent in resource-constrained communities of the world, especially in Africa. literature have shown that over 100 million people apply for admission into higher education across the globe annually (Bervell & Umar, 2017), however, only about half the number are enrolled in these institutions, inadequate absorbing capacity, poor infrastructural and technology environment (Mwalumbwe, & Mtebe, 2017; Tulinayo, Ssentume & Najjuma, 2018). These challenges spiked the interests of academics , researchers and institutional leaders in innovative ideas and solutions such as the open educational resources (OER), open learning and massive open online courses (MOOCs).

Over the past decades, there has been growth in higher education across the globe. The British council in a 2012 survey had predicted significant rise in enrolments across higher education institutions in some low, middle and high-income countries that include Brazil (Nine million), China (37m), Ethiopia (600,000) India (28m), United States of America (20m), Turkey (700,000) and Nigeria (1.4m) (Raphael, 2017). Furthermore, Czerniewicz,et al., (2014) noted that higher education in Africa has witnessed a trend that tripled from 2.7 million in 1991 to 9.3 million in 2006. Consequently, the United Nations Educational, Scientific and Cultural Organisation (UNESCO's) Institute of Statistics (UIS) also reported a significant growth in sub-Saharan Africa's higher education. As Calderon (2018) observed, the subregion recorded an increase in enrolment from 2.4 million (which is 2.6% of the global enrolments) in the year 2000 to 7.4 million (3.4% of the global enrolments) in 2016 (Calderon, 2018). Consequently, the authors predicted a global increase in enrolment from 214.1 million in 2015 to 594.1 million by the year 2040. Table 1 and Figure 1 are the graphical representation of the enrolment trajectory between the year 2000 to 2040.

<b>Region(s)</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2016</b>
Arab States	5.1	6.9	8.7	10.7	10.8
Central & Eastern Europe	14	19.5	21.6	19.5	18.9
Central Asia	1.5	2.1	2.2	2.1	2
East Asia& Pacific	25.3	41.3	55.3	69.4	70.9
Latin America & the Caribbean	11.5	16.1	21.6	25.3	26.2
North America & Western Europe	27.8	33.7	37.8	37.5	37.5
South & West Asia	12.2	16.1	28.5	42.2	42.2
Sub-Saharan Africa	2.6	4.1	5.8	7.4	7.4
<b>Global</b>	<b>99.9</b>	<b>139.6</b>	<b>181.5</b>	<b>214.1</b>	<b>215.9</b>

Table 1. Global enrolment in higher education. *Source: Calderon (2018) Massification of Higher Education Revisited.*

Over the last few years, Nigeria has surpassed these projections. for instance, the number of applicants for university enrolment grew 1.5 million to 1.8 million between 2015 and 2018 (Kanyip, 2013) out of which only 30% were admitted affirming this position, the executive secretary of the Nigerian Universities Commission (NUC) reported that only 1.9 million out of over 7.8 million that wrote the university entry examination (JAMB UTME) between the year 2013 to 2017 were admitted ([www.tribuneonline.ng.com](http://www.tribuneonline.ng.com)). A clear manifestation of the threat to the realisation of the national higher education objectives, its potential effects on socio-economic growth, the stability of the country and the cardinal objectives of higher education in Nigeria.

Educational objectives that include: (i) national development through high-level workforce training. (ii) development and inculcation of values for the survival of the citizens and the society. (iii) development of the intellectual capability of citizens to understand and appreciate their environments (iv) the acquisition of physical and intellectual skills that enable citizens to be self-reliant and useful members of the society, and (v) the promotion of scholarship and community service. To these ends, Nigeria needs a robust and dynamic educational system that delivers on these collective vision, and empowers the individuals to withstand the threats of poverty and disease. Like most countries in sub-Saharan Africa, Nigeria is bedevilled by poor access to higher education Africa (Kanyip, 2013), budgetary constraints, competing priorities and poor absorbing capacities of the institutions (Yunusa, Umar, & Bervell, 2019). Calderon (2018), reported that participation among the eligible age group in higher education in the African sub-region declined by 2.8% between 2012 to 2016.

Against this background, this paper advocates the adoption of the massive open and online courses (MOOCs) as a panacea to the challenges of access to higher education (especially university education) in Nigeria. The paper draws on the different models adopted in developed contexts's such as Harvard, MIT, Stanford and many others to advance the adoption of MOOCs given that there is an improved internet bandwidth

and penetration in Nigeria. MOOCs are fast becoming household names in the realm of open, distance and online learning environments. Since its emergence over a decade ago, MOOCs has spread across North America, although MOOCs are offered in a wholly online mode, many institutions are increasingly negotiating to use MOOC materials in hybrid or blended format on campus (The British Columbia blog, 2016). However, issues of retention and course completion are pushing the frontiers of knowledge (Cobos & Jurado, 2018; Hone & Said, 2016; Watson, Kim, & Watson, 2016). Other impediments associated with MOOCs include; students use of MOOCs and their learning strategies, motivation and persistence in learning (Hood, Littlejohn, & Milligan, 2015; Jung & Lee, 2018; Zhou, 2016) with little focus on MOOCs adoption and implementation in Sub-saharan Africa .

Over the last few years, two major classifications of MOOCs have emerged xMOOCs and cMOOCs respectively (Smith & Eng, 2013) while different variations of MOOCs models are still evolving though with common features. Bates (2014) identified networked learning as the key features of cMOOCs, this refer to learning developed through connections and discussions in social media space without standard technology platform. Popularly referred to as connectivist MOOCs (cMOOC). On the other hand, xMOOCs is a behaviourist oriented, information transmission model in the form of traditional classroom setting, the differences being that teaching occurs online, by recorded videos of short lectures with computer automated testing and peer assessment.

Researchers such as Yousef, Schroeder, Wosnita and Jakobs (2014) unraveled two other forms of MOOCs, small open online courses (smOOCs) and blended MOOCs with campus-based teaching (blended MOOCs). Relatedly, Chauhan (2014) suggested a broader taxonomy of the MOOC models such as; the Big Open Online Courses (BOOCs) described as the intersection between xMOOCs and cMOOCs, the Distributed Open Collaborative Courses (DOOCs), a MOOC shared by 17 different universities, Little Open Online Courses (LOOCs), Massive Open Online Research (MOORs) which is a blend of video-based lectures and students' research projects guided by instructors. Small Private Online Courses (SPOCs), the Harvard law school model, wherein students offer courses through video lectures delivered as on-campus students enrolled at Harvard and the Synchronous Massive Open Online Courses (SMOCs) which is real time lectures for campus-based students that are also synchronously available to off-campus students for a fee. These are some of the MOOCs variations may be leveraged upon to increase access to quality higher education in underserved and resource constrained communities.

In Africa, the uptake of technology driven education is on the increase due to the huge investments made by governments in the region coupled with the growth of internet occasioned by the expanding undersea optic fiber cable network around the continent (Escher et al., 2014). Nigeria may draw on a few MOOCs projects to improve its higher education for instance: The Rwanda's Partners in Health Project (PIH). In this model, a contextualized MOOC hosted on the Couseira platform by the university of Geneva Titled: Global Health "An Interdisciplinary Overview" was used to train health workers selected from three districts in Rwanda, the course had no pre-requisites while participation was optional, the results show that 20 out of the 38 employees (52.6%) completed the course. 85% of the participants attended 3 out of the 7 sessions. 80% of the participants believed that completing the course helped



advanced their career (Warugba, & Naughton, 2016). In Kenya, Jobe (2013) reported the design and development of a quasi-MOOCs that provided open educational resources (OER) for teaching and learning across the strata of Kenyan educational landscape. The “Kenyan Cloud School” contextualized curriculum contents in English and Kiswahili. It is also combined the learning aspects across different MOOCs format such as structured lectures, interaction and open resources for enhanced quality of teaching and learning.

The World Bank’s New Economy Skills for Africa Program in Information and Communication Technology (NESAP-ICT) in Tanzania (Escher & Noukakis 2014). NESAP-ICT was designed to supplement higher education courses on graduate ICT skills using MOOCs from leading universities. Also, the Kepler project in Rwanda is an independent MOOCs project in Africa with a unique structure of MOOCs designed to meet the of the Rwandan students. Escher et al., (2014b) noted that students who enrolled in the program lived, learned together and received assistance from knowledgeable staff members. It was a wholly independent MOOCs that afford students the opportunity to complete a four-year course of study from top ranking universities.

### **Barriers to accessible and qualitative education in Nigeria**

Previous studies have identified poor or lack of funding, inadequate facilities and lack of access to youth education as factors militating against educational development. According to Garba, (2017); Boga & McGreal, (2014), youth access to education is about 6% in Africa. other limitations are issues of misalignment of curricula with goals of nation-building, and the needs of the society, inadequate and inappropriate staffing, and poor information and communication technology infrastructure such as internet connectivity, unstable electricity and poor internet bandwidth (Bervell & Umar, 2017; Oyo & Kalema, 2014). In sub-Saharan Africa, countries like South Africa, Tanzania, Kenya and Uganda are leveraging the shift from traditional model of education to online (Ng’ambi & Bozalek, 2015; Bervell & Umar, 2017) adopting technology-enhanced educational medium.

Although few universities offer an ODL mode in Nigeria (e.g. the University of Lagos, University of Port Harcourt and Ahmadu Bello University Zaria) most of the universities run a part-time structure based on an ‘inward looking format’. An operational framework that accommodate students within the university. However, this model has minimal impact on the issue of accessibility. In the past decades government in Nigeria have established more universities, from 76 universities in 2010 to 138 universities in 2014 (Jaiyeoba & Ademola, 2014). with corresponding rise in the enrolment numbers, an average of 12% annually (National Universities Commision (2000 as cited in Jaiyeoba, et al., 2014). Figure 1 presents enrolment numbers in Nigerian Universities between 2010 to 2016 (National Bureau of Statistics/JAMB). The figure also illustrates a rise in the number of enrolments.

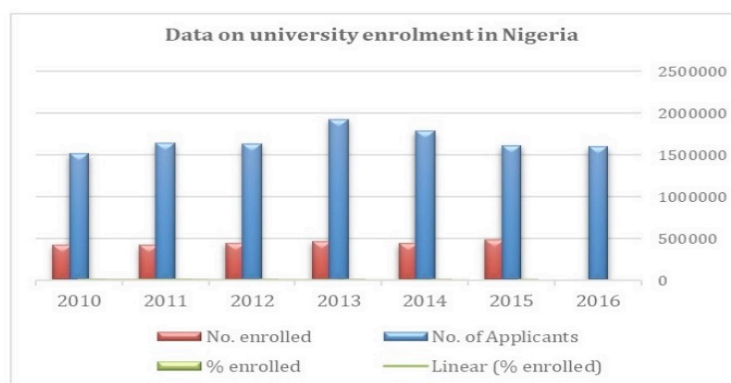


Figure 1. Enrolment figures in Nigerian universities 2010-2016 Source: National Bureau of Statistics, Joint Admission and Matriculation Board

### MOOCs as Panacea to the challenges of higher education in Nigeria

The word 'MOOC' was coined in 2008 by Dave Cormier, from the University of Prince Edward Island for a course offered by the University of Manitoba titled; "Connectivism and Connective Knowledge." (CCK08). There were 25 tuition-paying students from the university and 2,300 non-paying students outside the university who took the course online. There were electronic feeds for material and participation was facilitated through a variety of venues including Moodle (which is a Learning Management System), Blog posts, Second Life and real-time online meetings (Ng'ambi & Bozalek, 2015).

In Nigeria, the rising number of citizens seeking university education may be accommodated by MOOCs given its potentials and flexibility. Furthermore, a few tertiary institutions provide a semblance of MOOCs in Nigeria. Institutions like the National Open University of Nigeria (NOUN), Centres for Distance and Continuing Education at Ahmadu Bello University, Zaria (ABU); University of Ibadan (UI), Bayero University Kano (BUK), Kaduna State University (KASU), University of Lagos and University of Port Harcourt offer online courses that help students acquire skills not only beneficial as general education but also assist the learners to startup businesses and additional qualification for career advancement. Experts in the African context have recommended different approaches to improve higher education (Bette & Esu, 2011; Jaiyeoba & Ademola, 2014; Okoli & Azih, 2015; Ofoego & Ebebe, 2016).

However, "leveraging MOOCs" is contextualized based on the challenges of access and enrolments in Nigeria higher education system. The paper is premised on the insights from McAndrew and Scanlon (2013) who noted the significance of MOOCs as a viable alternative in the educational process. With courses enrolling over 100,000 students, MOOCs ability to reach students who have breaks in study, change where they study, mix study with work, and take at least part of their study online. Also, Godwin-Jones (2014) and Stone (2018) noted the increase in MOOCs and other "in-the-moment" learning opportunities represents the need to understand the effective design of the global learning environment which transcend the contents, and include the modes of delivery as well as the environment in which the learner receives the content. The paper also draw on evolving trends of MOOC across the world for inclusion, open, cheap and affordable pathway for growth and development (Albelbisi

et al., 2018; Escher, Noukakis, & Aebischer, 2014; Liyanagunawardena, Adams & Williams, 2013; Muhammad, Mustapha, & Haruna, 2016) despite its inherent problems (Clow, 2013; Sharma & Kawachi, 2017; Sunar, Abdullah, White, & Davis, 2015; Ulrich & Nedelcu, 2015; Yousef, Chatti, Schroeder, & Wosnitza, 2014).

### **Why Leverage MOOCs?**

Leveraging MOOCs is predicated upon its ‘massiveness’ regarding enrolment, there is virtually no limit to the number that may be admitted, it is open, with flexible admission requirements and little or no tuition, it is online (internet based) could be accessed through mobile. Oyo and Kalema (2014) also noted that developments in MOOCs is focused on course contents with a defined curriculum and certification on completion. Furthermore, there are established MOOC providers who are creating alternatives for recognition and qualification such as coursera’s ‘signature track’, ‘Futurelearn’s ‘statement of accomplishment’ and EdX’s *verified certificate of achievements*. These are indicators of the significant roles MOOCs can play to complement the traditional system and address partly the challenges of access and inclusion in HEI.

Alternatively, the ‘Mobile-MOOC’ which is a MOOC designed for mobile devices and for accessing learning contents across the internet, devoid of time and geographic limitation may be the most viable model as ‘leveraging on MOOCs’ for higher education in Nigeria. This may be more compelling given the progress made in adopting internet/online system for admission processes, registration and school data management in Nigeria (Adebo & Ailobhio, 2017; Muhammad et al., 2016; Rambe & Moeti, 2017). ‘mobile-MOOCs’ given its affordances has the potentials for increasing and widening participation if embedded into the HEI structure in Nigeria. Boga and McGreal (2014) and Gaebel (2014) argued that apart from using the MOOC access hub resources, the students can learn or participate in an interactive discussion from any location, using any available internet compliant technologies (such as smart phones, tablets, radio, television etc.). This model aligns with the growing debate on the potentials of MOOCs that can be delivered on mobile devices that have become ubiquitous among African students indeed “context aware” and ‘ubiquitous learning’ are emerging concept in the e-learning space.

Israel, ( 2015) recommended that institutions adopting MOOCs must have overarching strategic frameworks for course designs and implementation to have significant impacts on enhancing students’ outcomes and reducing costs. She opined that institutions must take the lead in the provision of infrastructure, support and incentives. That will help faculty to engage with MOOCs and other online learning technologies as well as explore opportunities for research into blended MOOCs and how factors like early support, a high degree of structured content and assignments, and use of learning analytics help to guide early interventions to improve engagement, persistence, and outcomes of students.

Regarding the curriculum structure for leveraging MOOCs in underserved regions like Nigeria, Czerniewicz et al., (2014) proposed a holistic curriculum framework for adopting MOOCs as a formal, semi-formal or non-formal offering. They premised their submission on the view that there is a sudden realisation of MOOCs not been able to provide lower cost degree and remains relevant within the less constrained and

informal educational scape. Nevertheless, they provided a means for contextualising the options within an institutional landscape of educational provision as possibilities for MOOC creation, use and adaptation which this article find quite instructive and relevant to the Nigerian higher education scenario. The authors envisioned MOOCs based on institutional priorities and contexts with a focus on the type of courses that fits into the educational objectives of the institutions in particular and the nation in general.

Courses, contents and pedagogy offered in a traditional university setting are invisible except to the students and the real managers of the system. However, when integrated with MOOCs they become more open and visible to interested outsiders not enrolled to the course; this form of MOOC integration is termed “outward looking” curriculum. In this format, the course is not limited to the regularly enrolled students (also referred to as *wrapped courses*) but to the interested outsiders that signed up to the MOOC course, although they may not get the same educational support as the normal students. What happens is that more students can take the course. On the other hand, if the course is structured only for students enrolled in the university for profit, certification and a fee, then it is an “inward facing system.” With this proposal, universities in resource-constrained environments can design courses within these inward-outward structures. Figure 2 depicts a curriculum landscape for the provision of MOOCs in higher education within the proposed inward and outward facing continuum as proposed by Czerniewicz et al., (2014) as a framework that may guide the modification and adoption of MOOCs courses in the higher education system in Nigeria. The landscape categorised into three steps, The formal, Semi-formal and the non-formal.

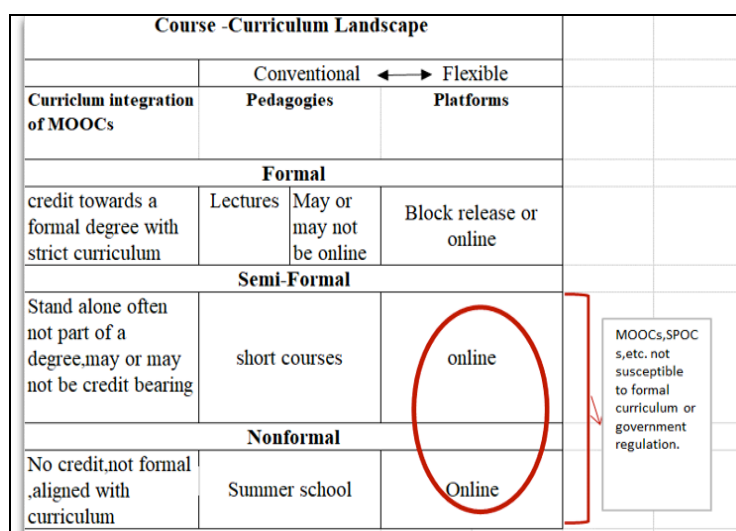


Figure 2: Proposed MOOCs curriculum landscape adopted from Czerniewicz et al., (2014)

The details of the courses-curriculum landscape of MOOCs in a formal domain is based on a curriculum with conventional procedures consistent with a normal, face to face university curriculum characterised by control to access, progression and assessment in an online format and credit-bearing courses. Semi-formal courses are less constrained. They support formal qualification which students may be encouraged to take even though it is not ‘credit-bearing.’ Examples of such courses are developmental courses, capacity building courses, preparatory or remedial

modular courses and optional enrichment courses that may have a shorter/longer duration (Czerniewicz et al., 2014). It is important to note that conventional courses are more readily embedded in the semi-formal and formal arrangement. In contrast, non-formal setting MOOC is usually a standalone course without credit. These scenarios are proposals for the adoption of a MOOC which is not only for increased access but for localising or contextualising the curriculum contents tailored to meet the educational needs of the people individually and collectively.

## **Conclusion**

Drawing on the work of de Waard et al., (2012), the rapid development of technological innovations and the exponential growth of the internet, web 2.0 and mobile technologies, offers potentials for different educational structures, organisations and settings. Despite the inherent challenges of IT infrastructure and internet penetration in Africa and Nigeria in particular, the MOOCs affordances can be leveraged to mitigate the challenges of higher education in different contexts. The deployment of resources, engagement and collaborations (within and outside Africa) with institutions in developed context offers the potential for transforming higher education in resource constrained regions.

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***Intercultural Competence in Internationalization Context:  
Some Recommendations for Tertiary-Level Foreign Language Teaching***

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**Abstract**

In the context of globalization, the internationalization of higher education is an unavoidable tendency. This endeavor, in one way or another, highlights the need for intercultural competence which plays an influential role in students' development and acquisition of sociolinguistic skills. To explain, native speakers of different cultures communicate and interpret a language behavior in various ways due to discrepancies in values and customs. As a result, many foreign language learners have encountered obstacles in real-life communicative situations with foreigners despite their in-depth study and rich linguistic knowledge. It is, thus, crucial for them to be trained with intercultural competence on a regular basis so as to facilitate successful interaction and avoid unexpected cultural misunderstandings. This paper aims to provide a theoretical overview of intercultural competence as well as suggest some recommendations to integrate it into foreign language teaching and learning at tertiary level.

Keywords: intercultural competence, internationalization, foreign language teaching, higher education

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## Introduction

Over the past few decades, the cultural dimension has gradually become as a key component of foreign language education, adding learners' acquisition of intercultural competence to the objectives of teaching and learning foreign languages. Unfortunately, many universities have yet to fully address the development of students' intercultural competence. Even for those who have, some key questions remain obstacles in the way of documenting intercultural competence within internationalization context: Why is it important? What is it? How can universities graduate interculturally competent students? This paper provides a systematic review of the important theoretical frameworks about intercultural competence with the hope to raise the awareness of educational institutions and teachers about intercultural competence as well as to propose some recommendations for individuals to incorporate it in their foreign language teaching programs.

### ***The Why question: The importance of intercultural competence in internationalization context***

The word *internationalization* has been used not only to refer to “relationships between and among nations, cultures, or countries”, but also in the sense of “the diversity of cultures that exists within countries, communities, and institutions” (Knight, 2004, p. 11). Therefore, it can be said that the 21<sup>st</sup> century given the context of internationalization has witnessed a number of drastic changes in all societies, including an increase in global and multilingual interactions within and across boundaries thanks to frequent mobility as well as the development of Internet. Users of any foreign language have a great deal more opportunities than ever to be involved in intercultural encounters, either online or offline, within or beyond their countries. As a result, it is unavoidable that the tendency of cultural diversity has become noticeable within global market place (Stier, 2006). A labor force should, therefore, be equipped with adequate intercultural knowledge and skills in order to compete globally in various situations. In response to this need, one of the main values of higher education should be to increase the quality and preparation of their students and staff to live and work in a global world, highlighting the importance of intercultural competence (Odgers, 2006).

At the same time, teaching and learning a foreign language becomes more popular than ever because people from various linguistic groups need a common means of communication. In foreign language universities, a wide range of foreign languages have been taught. From the 20<sup>th</sup> century to the early 21<sup>st</sup> century, the main focus of foreign language education in general and English language teaching in particular had been laid on developing linguistic competence, which involves different aspects of a language. Therefore, traditional English classes tended to help students acquire and master reading, listening, speaking and writing skills along with grammar, vocabulary and pronunciation of the foreign language. However, it is undeniable that only the knowledge of the language cannot guarantee effective communication in multicultural groups. Indeed, a lot of foreign language majors still experience culture shocks and misunderstandings when communicating with either the native speakers or people from different cultures. In an attempt to face this challenge, there is an increasing demand for the understanding of other people's cultures as well as their own during cross-cultural encounters. Consequently, the goal of language education is shifted to

culture as the core. This has brought more interests from scholars to intercultural competence since it enhances the notion of what it is to be competent for communication with speakers of different languages and with speakers using a lingua franca (Byram, Holmes & Savvides, 2013).

It is, thus, essential for students' intercultural competence to be developed in foreign language teaching and learning at tertiary level because it makes learning a foreign language more than merely learning linguistic skills. Intercultural teaching not only helps learners develop themselves and facilitate richer and more successful interaction with people from different backgrounds. More importantly, it also equips learners with crucial knowledge, skills and attitudes to survive the complicatedness of an open and integrated world, improving the quality and sustainability of the 21<sup>st</sup>-century labor force.

### ***The What question: Theoretical framework of intercultural competence***

As much research has been conducted in an attempt to conceptualizing intercultural competence since the 1960s, a great deal of definitions and understandings from various perspectives have been provided. Among them, Byram (1997) offered one of the most fundamental definitions, referring intercultural competence to the ability to communicate and interact across cultural boundaries.

However, the most widely accepted definitions of intercultural competence have been attributed to one of the most significant scholars of the field, namely Darla. K. Deardorff. In her work in 2006, Deardorff provided one of the top-rated recent definitions of intercultural competence, claiming that it is “the ability to communicate effectively and appropriately in intercultural situations based on one’s intercultural knowledge, skills and attitudes” (p. 247). This definition is undoubtedly quite comprehensible in terms of language used, which has gained success in helping educational stakeholders have the most fundamental understandings about the competence. It highlights effectiveness and appropriateness, referring to the abilities to achieve desired personal outcomes and to meet the expectations and demands of the communicative situation, respectively.

A few years later, Deardorff (2009) offered more comprehensive conceptualization of intercultural competence: “the appropriate and effective management of interaction between people who, to some degree or another, represent different or divergent affective, cognitive, and behavioral orientations to the world” (p. 7). It both expands “the ability to communicate” to the “management of interaction” and clarified “intercultural situations”. From this later definition, an emphasis is laid on not only the importance of success in communication but also people involved in the situations, the differences between them and the mutual effects exerted on them.

Since these definitions seem quite general and broad in nature, it is important to examine the specific components that constitute knowledge, skills and attitudes mentioned so as to frame a pathway for the development of intercultural competence. In such effort, Byram (1997) described a model in which the dialogue between people from two different cultures is viewed as a process involving intercultural factors. According to Byram, intercultural competence entails the following five ‘savoirs’ as shown in the Figure 1. Among these components, Byram (1997) considered the ability

to create positive attitudes to be most fundamental to intercultural competence. Although it shows both interrelated and separate relationships between the dimensions of intercultural competence, the model seems to ignore the process an individual learner goes through to attain deeper levels of each component.

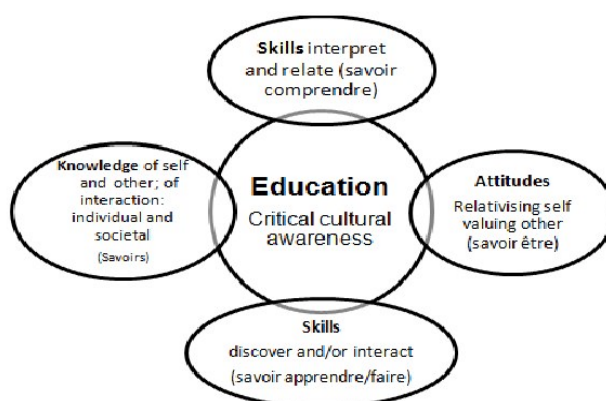


Figure 1. Byram (1997)'s Intercultural Competence Model  
Source: Deardorff (2009)

Deardorff also introduced two models of intercultural competence. The first one is the Pyramid model (2004), including five different domains in four levels moving from individual to interpersonal or interactive. They are requisite attitudes, knowledge and comprehension, skills, desired internal outcomes and desired external outcomes, representing motivational, cognitive and skills components, respectively. Agreeing with Byram's model, this model emphasizes the importance of attitudes as a fundamental basis of intercultural competence. On the foundation of attitudes, knowledge and skills, it is expected that an interculturally competent person can produce some desired outcomes both internally and externally. This model implies that the components are closely related to each other in a sequence of development.

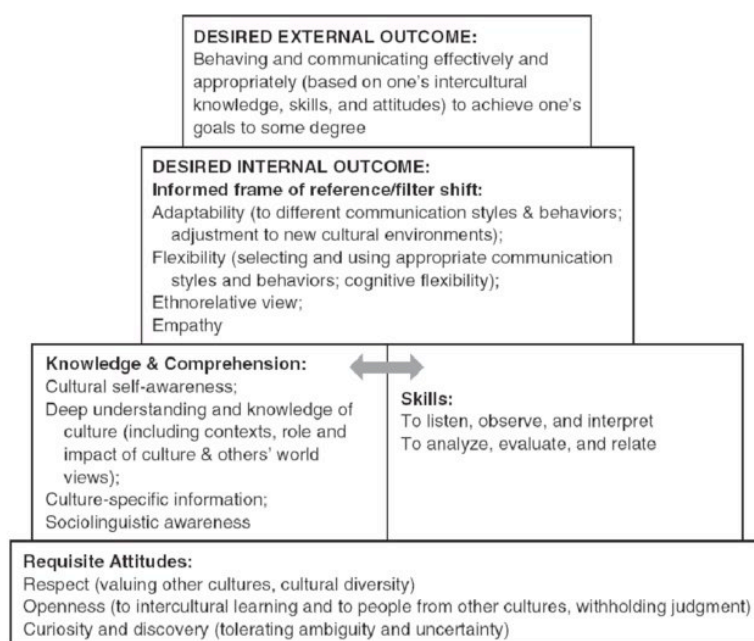


Figure 2. Deardorff (2004)'s Pyramid Model of Intercultural Competence  
Source: Deardorff (2009)

Deardorff (2006) also proposed another model from a perspective of a dynamic process of acquisition rather than merely fixed levels. It maintains the unique elements of each component of the Pyramid Model discussed previously and also considers attitudes of an individual the most critical component of intercultural competence, as they are demonstrated as the starting point of the process. Moreover, it implies that the external outcome can be achieved after owning appropriate attitudes, knowledge and skills but without having fully acquired the internal outcome. Another crucial point of this Process Model is that intercultural competence is described as an ongoing process of development, implying that one may never fully achieve ultimate intercultural competence.

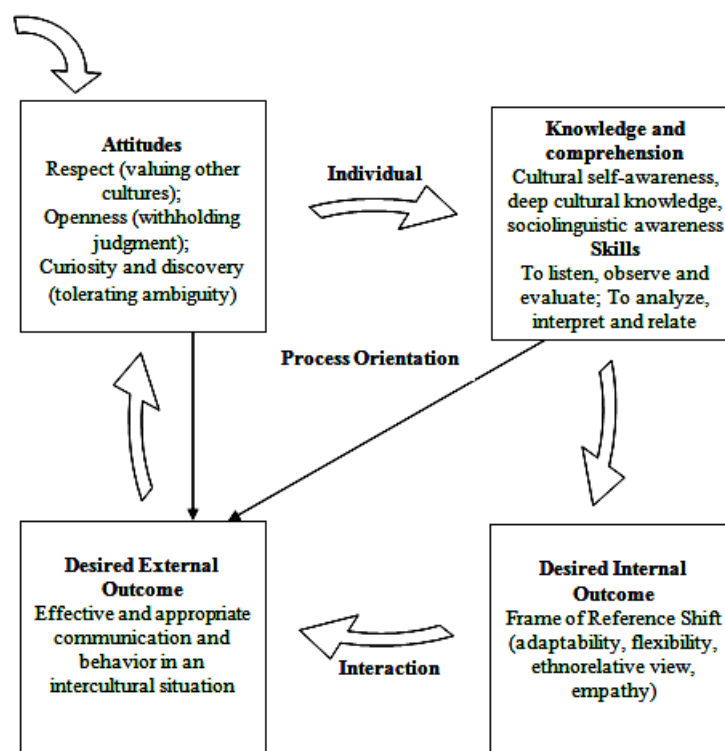


Figure 3. Deardorff (2006)'s Process Model of Intercultural Competence  
*Source: Deardorff (2009)*

It should be noted that the above three above models are in fact most widely agreed among intercultural scholars. Despite being developed based on different approaches, these models suggest that attitudes, knowledge and skills are fundamental dimensions of intercultural competence and that they are interdependent.

### ***The How question: Some recommendations for foreign language teaching***

Based on the definitions and models discussed above, there is no doubt that the development of learners' intercultural competence should pay attention to the aspects of attitudes, knowledge and skills, among which attitudes are at the basis as a starting point. In order to help learners acquire intercultural competence in tertiary-level foreign language teaching, the author proposes some following recommendations for educational institutions' administrators and individual teachers to apply models of intercultural competence.

First and foremost, intercultural competence should be identified as a student outcome of foreign language programs. This is important because by setting intercultural competence as an outcome, more attention can be paid to its development, particularly as an ongoing process rather than a direct result of merely one experience such as abroad study. More importantly, the design of foreign language curriculum can then be oriented in a way that involves a (inter)cultural aspect. In particular, such curriculum should address cross-cultural communication issues and provide students with training in intercultural skills. If separate courses or training programs cannot be provided, intercultural competence training should still be integrated in some courses. In order to do so, institutions and administrators should define intercultural in specific components. Since intercultural competence has been an undeniably complex construct, breaking it down into specific components and elements can help ensure the writing of curriculum objectives concerning the incorporation of this competence as well as fuel the implementation of intercultural teaching. It is also crucial for institutions and academics to reassess the definitions of intercultural competence on an ongoing process. According to Deardorff (2006), this is necessary since this construct continuously evolves as a result of the changes over time in scholars' viewpoints on intercultural competence. Therefore, there is a need to stay updated with research on this complex construct in order to properly adjust institutions' descriptions of outcomes and curricula.

Another recommendation for universities is to provide trainings for teachers with a focus on the development of their intercultural understanding. Such professional development can raise their awareness of the importance of intercultural competence. More importantly, it can allow teachers to be familiar with what constitutes the skills and strategies their students are expected to acquire to enhance their intercultural competence. According to Haas (2019), the more knowledgeable and competent language teachers are regarding this issue, the more able they become to integrate cultural practices in their teaching.

For language teachers, based on models of intercultural competence, there are several approaches and methods that they can adopt to incorporate cultural elements in their foreign language teaching in case separate intercultural training programs are not available. To begin with, in teaching foundational skills, teachers can make use of authentic materials of the foreign language, particularly literary texts. It has been argued that literature can make a meaningful contribution to students' development of intercultural competence (Hanauer, 2001; Gómez, 2012; Rodríguez & Puyal, 2012). Through an exposure to cultures and ideologies different from their own in time and space provided by literary texts, students can not only learn to become more open and respectful towards cultural diversity but also, from that basis, gain cultural knowledge. They can discover values of foreign authors and understand the differences basing on the socio-cultural as well as historical contexts. It is suggested that while exposing the students to literary texts, teachers should carry out Critical Discourse Analysis which, to put in simple words, views the language as a form of social practice. According to Starkey (2003), with this approach, teachers can frame a set of guided questions on an authentic literary text so as to critically engage the students in not only interpreting the content but also understanding cultural aspects of the text. As a result, students may feel more confident to discuss the issues analyzed in the class and make comparisons to their own cultures, improving their cultural



awareness. Starkey (2003) also insisted that the development of such awareness should indeed be facilitated continuously throughout learning.

Moreover, language teachers can design tasks and exercises with a focus on cultural elements in addition to language components. Quizzes, discussions, movies as videos, role-plays and simulations, projects and e-portfolios have been proved effective tools in exposing students to not only culture of the target language but also other languages as well. When integrating intercultural teaching in foreign language classes, as Bachmann, Gerhold and Wessling (1996, as cited in Neuner, 2003) suggested, teachers should follow a progression, starting from the training of awareness and perception to more complex tasks referring to communicative competence in intercultural situations. They introduced a four-stage typology of activities to be used throughout a syllabus, including:

- Stage 1: tasks developing intercultural awareness and perception (with a focus on describing impressions of people and events, telling stories, evaluating situations and changing perspectives);
- Stage 2: Concept and meaning (with a focus on interpreting concepts, defining meanings and explaining differences);
- Stage 3: Comparing cultures (with a focus on sharing opinions, comparing and contrasting cultural elements and norms);
- Stage 4: Developing communicative competence in intercultural situations (with a focus on analyzing speech acts, communication strategies, styles of expressions, and socio-cultural features of text types).

In order to yield the most effectiveness of any intercultural tasks and exercises, teachers should bear in mind that they need to explicitly formulate the objectives of each activity and examine its relationship to the overall context of the intercultural approach. Besides, it is also suggested that in their acquisition of intercultural competence, students should play an active role. In particular, each of them should be considered a unique resource and motivated to frequently reflect on their own culture and identity within and after each activity (Dunne, 2011). By being active, students cannot only be more aware of their own intercultural learning but also become motivated and critical during the process, helping them take the most advantage of the opportunities to improve their intercultural attitudes, knowledge and skills.

## **Conclusion**

It can be said that the college foreign language classroom presents a valuable opportunity for instructors to enhance the development of their students' intercultural competence. This article provides a rationale for the development of students' intercultural competence in higher education in internationalization context, summarizes the definition and models of intercultural competence agreed among top intercultural scholars and puts forward some suggestions for incorporating this competence in foreign language teaching. It is hoped that this study's findings will benefit administrators and instructors in helping students achieving intercultural competence at their educational institutions.

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***A Study in Singapore: Perceptions about the Importance of  
Written English Language and Undergraduates' Competency Level***

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**Abstract**

This exploratory study aimed to examine the perceived importance of written English language and level of competency among undergraduates in a public university in Singapore. The study arose from faculty's observations and concerns about students' written English proficiency. The study involved three targeted sample units: undergraduates, faculty and industry partners. These groups were invited to participate in Qualtrics online questionnaires customised for each of them. SPSS Statistics version 25 was used to generate descriptive statistics and perform cross-tabulations. The results from 215 undergraduates, 92 faculty and 110 industry partners suggested that all three sample units agreed on the importance of written English for academic studies and professional work. They differed in observations about undergraduates' written English competency levels, students' keenness to improve, and perceived optimism that improvement can be achieved during university studies. Three recommendations are proposed. Firstly, faculty's written English standard could be enhanced so that they become positive role models for students. Secondly, feedback for student is imperative if English assessment forms part of the marking rubrics. Thirdly, the fundamentals of English language could still be taught at the university level. The conclusion is that the university can be the last opportunity for undergraduates to improve their English competency before joining the workforce.

Keywords: undergraduates, written English, perceptions, pedagogy

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# **1 Introduction**

## **1.1 The Role of English Language in Global Business**

English is the most common language used for communication in business, politics, education, culture, science and technology (Mauranen, 2015), widely accepted across linguistic and ethnic boundaries (Crystal 2003). Crystal (2008) observed that user numbers are rising by the day, with 75 per cent of English speakers being non-native users (McKay, 2002; Neely, 2012; Zhu & Deng, 2015).

For global companies, the use of English enables them to achieve business objectives with greater adeptness and productivity (Nickerson, 2015). For individuals, the strongest motivators for learning English include interest in travel, making overseas contacts, chance to work in international organisations, better job prospects and higher pay (Li & Moreira, 2009; Martyn, 2018).

Indeed, Chattaraj (2015) labelled English as the ‘medium of prosperity’, in reference to the commonly perceived relationship between English competency and career success in her native country India. The positive impact of English language competency on career advancement has also been highlighted in several studies (e.g., Barner-Rasmussen & Aarnio, 2011; Chakraborty & Bakshi, 2016; Mauranen, 2015).

## **1.2 English Language Training in Higher Education (International Context)**

### **1.2.1 English Medium Instruction Programmes: The Growth**

In response to forces of globalisation, higher education institutions have sought ways to stay relevant and connected to the rest of the world. As English becomes a ‘shared second language of advanced education’ within Academia (Brumfit, 2004, p. 166), the implementation of English Medium Instruction (EMI) programmes expands. For many higher education institutions, the promotion of English use would make them more attractive to foreign talents (both faculty and students), boost their academic research in English, and consequently improve their international prestige (Coleman, 2006).

The EMI phenomenon has spread across Europe, Middle East and Asia. Many European nations that once guarded their local identities staunchly have integrated English training in their higher education, using it to promote international exchange and enhance their standing as members of the European Union (Coleman, 2006).

Wachter and Maiworm (as cited in Macaro, Curle, Pun, An & Dearden, 2018) recorded a 229% increase in Europe’s EMI implementation between 2002 and 2007. The same shift was observed in Middle Eastern countries and Asian countries, including those that were traditionally associated with suspicion of foreign influence (Choi & Lee, 2008; Macaro, et al., 2018). Even countries such as the UK, USA, New Zealand, Canada and Australia, often referred to as the ‘inner circle’ of English language users (i.e., native or first language users), are paying closer attention to issues related to the practice of English immersion (Dalton-Puffer & Smit, 2013).

### **1.2.2. English Medium Instruction Programmes: The Challenges**

Notwithstanding national and institutional efforts to facilitate English language development in higher education, Murray and Hicks (2016) acknowledged that implementations have been challenging due to practical and ideological concerns.

Practical concerns include the adequacy of resources to provide sustainable help to students, getting of subject faculty's support in students' language development, among others. Ideological concerns include conceptual differences across disciplines and institutions on what constitute language proficiency, academic literacy and professional communication skills.

Murray (2010) added that there is no 'one-size fits all' solution for helping students with development needs. The intricate status of English to each learner – whether it is a first, second or foreign language - implies that learner needs are different and hence, different pedagogies are needed. These concerns highlighted the responsibility of institutions and educators in ensuring that students have the right English language skills to be productive throughout higher education and eventually at the workplace.

## **2 English Language Education in Singapore**

### **2.1 The Objectives of the English Language Curriculum**

Although Singapore has four official languages (English, Mandarin, Malay and Tamil), English has been the language of the government and business since the 1960s. This move was adopted to foster a common identity among the four main ethnic groups in the population, and to facilitate economic growth (<https://www.straitstimes.com/singapore/in-his-own-words-english-for-trade-mother-tongue-to-preserve-identity>).

In keeping with this decision, the medium of instruction in school, from primary to secondary to post-secondary levels, has been English (Bolton, Werner & Bacon-Stone, 2017; Leimgruber, 2013). The aims of the syllabi are for students to achieve an “internationally acceptable English that is grammatical, fluent and appropriate for purpose, audience, context and culture” (Ministry of Education).

### **2.2 Singapore Students' English Standard**

The 2018 EF English Proficiency Index ranked Singapore in third place in the world, and in top position in Asia among 21 countries. (<https://www.ef.sg/epi/regions/asia/singapore/>). Notably, the overall pass rate in English at Singapore-Cambridge General Certificate of Education Ordinary 'O' level examinations has improved from 89% in 2016 to 89.6% in 2017 (<https://data.gov.sg>).

Despite such positive indications, the research team's faculty-colleagues have observed that undergraduates are unable to write effectively in English. To elaborate, this means that students may be able to express themselves adequately in general but falter when it comes to content communication in their subject areas (Airey, 2011; Lave & Wenger, 1991; Hanington & Renandya, 2017).

### **2.3 Local Universities' Emphasis on Communication Skills**

The public universities in Singapore all offer Academic English courses to undergraduates, through the establishment of language centres and facilities. At Singapore Institute of Technology (SIT), the institution in which this study was conducted, the Centre for Communication Skills delivers compulsory communication skills modules and provides consultation sessions for students on their assignments.

The local universities largely include English proficiency requirement in their admission criteria, though in different forms. Some require foreign applicants to produce proof of minimum grade attainment in international English proficiency exams such as IELTS and TOEFL. Others stipulate qualifying written test or personal statement submission as admission requirements.

## **3 Research Objective and Methodology**

Bolstered by the prevailing importance of English language and the above highlighted concern among faculty, this exploratory research set out to examine undergraduates' written English in the context of SIT.

SIT is Singapore's fifth autonomous university, established in 2009. It positions itself as a university of applied learning and has more than 6,000 students enrolled in over 40 degree programmes, offered by either SIT itself or jointly with SIT's overseas university partners.

The degree programmes and faculty's division are structured based on clusters. The five clusters are:

- Chemical Engineering and Food Technology.
- Design and Specialised Businesses<sup>1</sup>.
- Engineering.
- Health and Social Sciences.
- Infocomm Technology.

### **3.1 Sampling**

This cross-sectional research study involved three sample units related to SIT. A non-probability purposive sampling plan was adopted. The first sample unit comprised SIT's undergraduates who were in their second year of degree programmes. These students were targeted because they would have experienced one year of university education compared to the freshmen. They were also likely to have a more permitting academic load compared to final-year students.

The second sample unit consisted of SIT's faculty who have first-hand encounters with students' writing skills. The third sample unit comprised industry partners who have interacted with students during work attachment that can last from four to 12 months.

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<sup>1</sup> Accountancy, Hospitality Business, Food Business, Design, and Air Transport Management degree programmes.



All second-year undergraduates, faculty and industry partners from various degree programmes were contacted. It was a blanket inclusion of participants to reflect the direct relevance of the research topic for all three groups of participants. There were no other valid exclusion criteria.

### 3.2 Method

All three sample units were invited via email to participate in an online survey, on a voluntary basis. The invitation email contained a participant information sheet as well as a link to Qualtrics survey.

There were different versions of questionnaire for the three separate groups. Each questionnaire version had four to six questions on five-point Likert scale, that are related specifically to perceptions of the importance of English language and undergraduates' competency level. Cronbach's alphas for the scales were 0.65, 0.63 and 0.61 for the questionnaires that were administered to undergraduates, faculty and industry partners, respectively.

The Cronbach's alphas might be lower than the standard value for scale reliability. But several studies have discussed about the discretionary use and interpretations of these values.

Herman (2015) stated that Cronbach's value tends to underestimate the actual internal consistency of scales if they consist of fewer than 10 items, which was an intentional decision in this study to make it user-friendly for all three sample groups. The effect of an increased number of items on higher Cronbach's alphas was reiterated in other studies (Griethuijsen et al., 2015; Streiner, 2003; Tavakol & Dennick, 2011).

In addition, Taber (2018) found that there is a diverse list of descriptions to interpret the different ranges of Cronbach's alpha values, including 'reasonable' (0.67-0.87), 'adequate' (0.64-0.85), 'moderate' (0.61-0.65), 'acceptable' (0.45-0.98) and 'sufficient' (0.45-0.96).

In conclusion, the use of absolute alpha value without context is a problem, and lower alpha values do not imply an unsatisfactory instrument (Plummer, & Tanis Ozcelik, 2015; Vaske, Beaman, & Sponarski, 2017).

The Cronbach's alphas and descriptive statistics were generated via SPSS Statistics version 25, which was also used to perform cross-tabulations and comparison of means for the ordinal variables.

Ethical approval was granted by SIT's Institutional Review Board. There was no collection of information that could identify any individual or industry organisation.

## **4 Research Outcome**

### **4.1 Number of Responses**

Over the month of March 2019, a total of 2,566 potential participants were contacted to participate in the study. They comprised 1,861 undergraduates, 234 faculty and 471 industry partners. The eventual response numbers were 215 undergraduates, 92 faculty and 110 industry partners.

### **4.2 Research Findings on Undergraduates**

The 215 undergraduate respondents were diverse in terms of their accumulated GPA scores. At the point of survey in March 2019, 30.6% have attained 4.0 and above, 60.0% have GPA between 3.0 and 3.9, and the remaining 8.8% obtained 2.9 and below.

Among them, 92.6% expressed that written English is important or very important to their academic studies. The favourable scores were particularly high among students from Design and Specialised Businesses, as well as Health and Social Sciences programmes. 78.2% and 75.8% of students from these two respective clusters considered written English to be very important.

A total of 89.7% of students indicated that written English is important or very important for their future careers. While the aggregate score was still positive, it was lower compared to the importance for academic studies, which is explicable for a sample unit that comprised undergraduates.

When asked to self-assess their current standard of written English, 10.2% among the 215 respondents rated their standard as excellent. Within each of the five clusters of degree programmes, Infocomm Technology students had the biggest proportion (24.3%) that ranked their English standard as excellent. Comparatively, students from clusters that traditionally place higher emphasis on English, assessed their own standards lower. Only 6.4% of Design and Specialised Businesses students, and 7.6% of Health and Social Sciences students appraised their standard as excellent.

Among the 215 students, 4.7% evaluated their standard to be poor, citing reasons such as:

- Non-use of English at home.
- Low interest in English language.
- Bad foundation and lack of practice.

When the GPA scores were added to the analysis, it was shown that 13 students (6.0%) with GPA scores of 2.9 and below rated their own English standard as excellent or good. In contrast, 40 students (18.6%) who had GPA scores of 4.0 and above rated their English standard as adequate/fair or even poor.

When asked about the prospect of improving their written English during their university studies, 57.2% of students were optimistic and very optimistic, and 35.5% were moderately optimistic. Such finding augurs well for any English modules

offered at SIT because students are likely to take them seriously enough. The inference was further justified by students' responses to the question of whether they were keen to improve their written English, to which 84.2% responded they were keen and very keen.

When asked about the area they wish to improve most, 59.5% chose 'thought and organisation' over aspects like structure (14.0%), grammar (11.2%) and vocabulary (10.2%). This implies that students are aware that writing is a reflection of clarity, development and organisation of thought, which aligns with the conceptions of "knowledge telling" and "knowledge transformation" expounded by Bereiter and Scardamalia (1987).

Additionally, students were clear about their preferred means of seeking improvement for their written English, with 52.6% opting for one-to-one or one-to-group consultations. Students value interactions with faculty to clarify their doubts, and 61.2% of them opined that faculty who teach their core modules are most suited to help them improve their written English.

When it comes to seeking improvements, students expressed their thoughts about the need for post-assessment feedback:

"... professors can share with us our submission ... if our proficiency in English was assessed."

"Review of assignments is particularly useful ... to identify mistakes and structural lapses."

Almost one third (30.2%) of students want writing practice activities embedded in their core modules. This supports the underlying principle of Content and Language Integrated Learning (CLIL) which prescribes that content teachers (i.e., core modules faculty) should also focus on students' language.

A recurrent comment from students was that their faculty's own command of English is often lacking, and not meeting the expectations of students.

"Some professors are not very competent in English language, hence core modules do not help us to improve our written skills."

"Lecturers are unable to demonstrate proper command of the language, yet expect student to present a perfectly written paper. Maybe it should start from the top instead of picking on students."

"The English spoken by some of the faculty is not properly structured and with poor grammar. This poses a doubt when it comes to the faculty marking our written report."

Students also called for more focused, industry-specific contextualisation in the communication modules:

“... consultation by communication staff is not helpful as they lack contextual knowledge on the topic that the essay is written for.”

“... DO NOT help our English ... unless they re-structure the whole module to be leaning towards improving written English.”

“... Diagnostic Radiography course NEEDS specialised tutors for their assignments.”

### **4.3 Research Findings on Faculty**

The survey captured 92 responses from SIT faculty who teach degree programmes across the different clusters. With regard to the perceived importance of written English in their students' academic studies, 61.5% of faculty decided that it is very important, 35.2% felt it is important, while 6.7% thought it is moderately important. There were nil responses to 'unimportant' or 'very unimportant'. This result pointed to the correlation between academic success and strong writing skills that faculty associate with:

“Writing well serves to bring about clarity.”

“Their ability to explain their work and solutions in writing directly affects how well their work and solutions are received. Hence, the more clearly and accurately they write, the more marks they can get.”

As for the perceived importance of written English in their students' future career, all faculty agreed that it is important, albeit to varying degrees. As many as 93.3% expressed that written English is very important or important to their students' professional development. Only 6.7% rated this criterion as moderately important.

This outcome attests to the sense of urgency felt among faculty worldwide and within Singapore about the importance of students' mastery of English for employability and workplace success. The perceived correlation between effective writing skills and professional and leadership success is captured by some faculty as follows:

“Being able to speak and write well is a pre-requisite for any profession.”

“The standard against which I assess the written English for our students is that of a leader who needs to persuade stakeholders across levels ... to argue for change that is needed to transform the healthcare landscape ...”

When it comes to faculty's perception of students' current standard of written English, the results were mixed: 58.7% of faculty felt that students' standard is just adequate / fair, 19.6% rated it good and excellent, with the remaining 21.7% rating it as poor and very poor. Some faculty wrote:

“I teach across clusters and note that the English level is very different from programme to programme, cluster to cluster.”

“There is a broad range in students' writing capabilities. Some are quite fluent, while others are very weak ...”

These responses served to point out the pitfalls of drawing simplistic or over-generalised outcomes from such a study. This reinforced, to some extent, Murray's (2010) assertion of the term language 'proficiency' as a "nebulous, ill-defined concept" (p.57) that requires more rigorous clarification, and not to be confused with 'academic literacy' and 'professional communication skills'.

The response to the question determining faculty's degree of optimism that students can continue to improve their written English was generally favourable. There were 90.2% who are at least optimistic vis-à-vis 7.6% who are not optimistic and 2.2% who are very un-optimistic.

The positivity faded somewhat in the question on whether faculty agree that students are keen to actively improve their written English. Only three respondents (3.3%) answered 'strongly agree', 33.7% cited 'agree', 39.1% were 'undecided', 20.7% answered 'disagree', and 3.3% identified with 'strongly disagree'.

Thus, while 90.2% of the faculty were optimistic that students can continue to improve, more than 60% were unsure, or disagreed to varying degrees, about students' seriousness to improve. The faculty's written comments reflected their perceptions of some students' 'slack' attitude:

"The students are aware that their English is sub-par, but they tend to blame the material and the industry. They seem to have the impression that the industry should put things simpler ... rather than the notion that they should be improving themselves."

"I suspect the students are interested in improving, but only if it can be done without much effort ..."

Concerning faculty's pedagogical practice of including written English in the project assessment rubrics, 68.5% answered that they do so frequently or very frequently, 23.9% said 'occasionally', 6.5% indicated 'rarely', and 1.1% claimed 'never'.

Among the faculty who frequently or very frequently included written English in project assessment rubrics, there were different adoption rates among the faculty of the respective clusters:

- Design and Specialised Businesses (83.3%).
- Health and Social Sciences (78.3%).
- Chemical Engineering and Food Technology (60.0%).
- Engineering (58.0%).
- Infocomm Technology (5.8%).

For faculty who expected good writing skills among students, they also deemed it as important to integrate the teaching of English writing into content teaching:

"Written English has to be embedded into modules and needs the support of faculty to level it to acceptable standard." (sic)

These sentiments reinforced the emphasis of Content and Language Integrated Learning (CLIL) (highlighted in section 4.2) which outlines the dual responsibility of

subject teachers in bringing about content and language learning (Dalton-Puffer & Smit, 2013; Meyer, 2010).

Faculty's additional comments also stressed the value of provisional English classes and coaching - a practice adopted by many HEIs worldwide for students who need help with their English language skills.

One faculty expressed satisfaction with the help offered by SIT's Centre for Communication Skills, while others recommended how these initiatives can be made more effective:

"May not be an effective way to run just single writing module in lecture style. Continuous throughout the whole course would be worth to explore."

"Should make the academic writing workshops specific to each cluster more regularly, which will allow students to choose the relevant ones when needed." (sic)

#### **4.4 Research Findings on Industry**

The 110 respondents were from five industry sectors that mirror the five degree programme clusters. The industry partners who responded were mainly from the Health and Social Sciences sector (55.5%), followed by the Design and Specialised Businesses sector (20.0%).

Collectively, 97.3% of respondents across the sectors indicated that written English is important and very important in their industry. The remaining 7.3% indicated that it is moderately important. No industry partner thought that written English is unimportant.

It seems that the importance is prevalent across the sectors for proposal writing and email correspondences. However, the environment in the industry may determine the extent of importance:

"PT (physiotherapists) need to have a good command of English ... for accurate and concise clinical documentation, and discussions at ward rounds."

"There is an increasing demand for accountants to communicate well."

"While the English language is important in the manufacturing industry, we have identified factors limiting the proper use of English; namely: the education level of other employees, and whether it is socially appropriate ... if many of the employees are not doing so."

Industry respondents opined that logic, reasoning, ability to connect with audience and convey concisely are important in the command of a language. One example of industry's assessment is reflected in the comment below:

"I have noticed that the students who have done internship or IWSP lack the ability to summarise. There is a tendency to write down everything, and still miss the key points that they really should highlight."

There is acknowledgement that the wide use of social media plus the prevalence of Singlish and Mandarin do not help the students' English standard. Industry partners had to guide interns in the preparation of presentations and in communication with higher authorities.

Concerning the written English standard of undergraduates (across various Singapore universities), industry respondents assessed it to be generally good or adequate. Only 7.3% valued it as excellent. The 2.7% that rated it as poor consisted of industry partners from the two sectors of Design and Specialised Businesses, as well as Health and Social Sciences.

When compared with students from other local universities, 93.5% appraised SIT students' written English standard to be good or adequate / fair, 4.7% rated it excellent and 1.9% thought that it is poor.

The respondents were mostly optimistic or very optimistic (74.5%) that students can continue to improve their written English during their university studies. Among the 7.3% that were not optimistic, 4.5% were from the Health and Social Sciences sector.

This optimism could stem from the conviction that the university might be the last opportunity for students to hone English writing through reports, projects and examination writing. The lack of optimism was backed by the observation that students are not engaging in activities that will help improve their English standard:

"To increase written English competency, one needs to read a lot ... not just goggle articles, but read widely both fiction and non-fiction. With the current 'screen' generation and online learning mode, I am only moderately optimistic that students are able to improve their English language to articulate appropriately in the working world."

#### **4.5 Comparative Analysis Across the Sample Units**

Slightly more faculty (95.7%) than undergraduates (92.6%) agreed that written English is important or very important in students' academic studies. However, based on independent-samples median test, the medians across the faculty and the undergraduates were the same.

When it comes to students' future career in the industry, both faculty (91.3%) and industry partners (97.3%) evaluated written English to be important or very important, more than the undergraduates themselves (89.3%). However, the medians across the three sample units were similar.

With regard to students' current standard of written English, the medians for the faculty and the undergraduates were different ( $p = .000$ ). Only 1.1% of faculty rated students' written English as excellent. This contrasted with the undergraduates' self-assessed 10.2% and the industry partners' 7.3%.

The faculty's critical opinion was further noted in the 21.7% who assessed students' written English as poor or even very poor. In contrast, only 4.6% of undergraduates thought likewise of their own standard. In fact, 68.2% of industry partners described

SIT students' written English to be good or excellent vis-à-vis the standards of students from other local universities.

Industry partners are also the most hopeful group, with 74.5% being optimistic or very optimistic that students can continue to improve their written English during their university studies. Faculty and undergraduates were less positive, at 53.3% and 57.2% respectively, with different medians across the two groups ( $p = .002$ ).

The biggest difference in results was related to the seeking of improvements. Among the faculty, 37.0% agreed or strongly agreed that students are keen to actively improve their own written English. This contrasts with the 84.2% of undergraduates who indicated their eagerness to enhance their written English standard. Expectedly, the medians across the two groups were different ( $p = .000$ ).

Concerning the role of faculty (of core modules), 60.9% of undergraduates expressed that faculty are important or very important in helping students to improve their written English. Faculty demonstrated awareness of this responsibility, as seen in the 68.5% who frequently or very frequently include written English in their project assessment rubrics.

## 5 Discussion

The aspect where all three sample units - undergraduates, faculty and industry partners - concurred to a high extent was that English language is important for academic studies as well as professional career. This outcome reinforced existing literature at two levels. At the organisational level, it is the *de facto* global language for organisations to meet commercial objectives (Crystal, 2003; Nickerson, 2015); and in Singapore, English is the official business language. At the personal level, linguistic competency could impact career advancement in terms of better pay and jobs (Barner-Rasmussen & Aarnio, 2011; Li & Moreira, 2009).

Despite the early commencement of English language education in Singapore schools, the perceived standard of undergraduates' English proficiency is not correspondingly favourable, even among students themselves.

From this study, the following inferences can be made regarding how undergraduates' English competency can be enhanced. These observations include the part of faculty role-modeling good writing standards, and increased contextualising of communication skills programmes to make them more industry-focused. The final responsibility must rest with the students, calling attention to students who view language classes as a dispensable appendage in their core curriculum.

While undergraduates in this study had expressed optimism and keenness in improving their English standard during their university studies, and industry partners had shown similar optimism, faculty's responses were more reserved. This might be due to faculty's perception of the level of keenness displayed by their students.

All the suggestions and disparities in perceptions confirm existing literature that English programme implementations are much more complex in reality, due to a combination of practical and ideological concerns, as outlined in section 1.2.2.



## **6 Recommendations**

There are three main recommendations, all pivoted on faculty's role and pedagogy. Firstly, faculty's written English standard must be upkept to be positive role models for students. Secondly, besides including English in assignment assessment rubrics, faculty can facilitate students' language learning by providing timely feedback to students in this area.

Lastly, SIT's current communications modules may be strengthened via two approaches. The first approach is to capitalise on students' enthusiasm to learn the fundamentals of English writing and teach them, alongside the honing of students' skills in 'thought and organisation', identified by 59.5% of students as a critical area for improvement. The second approach, as suggested by students, is to increase contextualisation of contents to make the modules more subject- and industry-relevant.

## **7 Research Limitations and Future Possibilities**

The first limitation is that the study was localised in one university. Thus, the generalisation of results to the entire local population is limited. The second limitation is the use of online survey as the research tool. There were no face-to-face dialogues to collect more qualitative inputs.

In reference to these research limitations, future research can include the other five public universities in Singapore. Enlarging the scale will yield a more comprehensive understanding of the phenomenon. Face-to-face interviews can be included to gather more qualitative inputs from various stakeholders. Considering the value of such a study, it can be developed into a longitudinal case to examine the (changing) perceptions so that pedagogy can be adjusted appropriately in a timely manner.

## **8 Conclusion**

As expressed by an industry partner, a bachelor's degree is likely to be the highest educational qualification that most students will attain. Hence, the university is likely to be the last opening for students to practice written English and improve their written communication within an academic setting.

As a relatively new university, SIT can benefit from these research findings to review institutional initiatives, and help students improve their English competency for the benefit of their academic and professional advancements.

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***Development of Science Academic Achievement by Using Inquiry-Based Learning  
and Problem-Based Learning of Grade 1st Students***

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Official Conference Proceedings

**Abstract**

The aim of this research was 1) to develop the students' science academic achievement in order to pass the criteria of 70 percent of full score 2) to study the students' satisfaction toward the Inquiry-Based Learning and Problem-Based Learning activities. The research study was conducted on 38, 1st grade students who were 6-7 years old in academic year 2018 from Kasetsart University Laboratory School Kampaeng-Saeng Campus Educational Research and Development Center, Nakorn-Pathom province, Thailand. The research methodology is classroom action research. The research instruments were: 1) 5 lesson plans of the Inquiry-Based Learning and Problem-Based Learning activity, 2) the science academic achievement test, 3) the observation form, and 4) the satisfaction toward learning activity test. In the study, data were obtained via the one group pretest-post test design; analyze the data by using mean, percentage, standard deviation and t-test dependent group. The results were 1. The students' science academic achievement mean scores in pretest and post test were 54.5 and 82.5 percent respectively. It's visible that the students' mean score post test higher than pretest, statistical significance at the level of 0.05 and passed the criteria in post test. 2. The level of students' satisfaction toward Inquiry-Based Learning and Problem-Based Learning activities was in high level. The research found that activities were effect students to learning deeply, assertive, comment, enthusiastic, responsibility, and enjoy to study. Students also analytical and solve the problems under working together, searching information from a variety of learning sources and summarize what they has been learned.

Keywords: Science Academic Achievement, Inquiry-Based Learning, Problem-Based Learning, Grade 1st Students.

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## Introduction

Basic education management is education for all, which the state must provide education to develop Thai youth to have desirable characteristics. For the development of the country that still stands in the future. Therefore, the current education management emphasizes on the students to be the actors in the search of knowledge. Which the education management according to the National Education Act 1999 B.E. has established the purpose of providing education that must be to develop Thai people to be perfect humans Both body, mind, intellect, knowledge and morality, ethics and culture in living and able to live happily with others. This approach is in line with the Ministry of Education's policy on national youth development into the 21st century world. The aim is to encourage learners to have morality, love being Thai, have analytical skills, synthesize, have technology skills, can work happily with others and be able to live happily with others in the peace global society. 21st century education, the instructor must adjust the teaching and learning by helping to guide and design the learning activities for each student to be able to assess their progress, must make the students love to learn and with the goal of teaching that will give students life skills, thinking skills and technology skills. In line with Wichan Panich (2012:5) said that true learning is in the real world and in real life, learning the subjects in the classroom is not true learning, it is still a hypothetical learning, the learners must design learning to learn in a condition closest to real life.

For the knowledge and skills in science and technology in the core curriculum of basic education in 2008, focuses on the students to have knowledge, understanding and experience in management. Preserving and utilizing natural resources including the environment in a balanced and sustainable, solve problems and skills in living. In addition, science plays a very important role in the present and future world. It also helps humans to develop their thinking methods. (Office of Academic Affairs and Educational Standards 2008: 1) Therefore, the teaching and learning process must be consistent with the real conditions in life and consider the students who have learning methods.

Problem-Based learning (PBL) and Inquiry-Based Learning are underpinned by a constructivist approach, as such it promotes active learning that allowing students to create new knowledge by using real-world problems as contexts of learning for students to develop skills in critical thinking and problem solving including pulling knowledge according to science in the field of study. It's used as a focal point for student inquiry/investigation. Students are actively involved in solving problems or answering questions. Teacher facilitates, guideline and teaching strategy designed to teach problem-solving skill, content and to develop self-directed learning. (Munthra Thumabuth, 2002: 13) Arpon Seang-rassamee (2000: 14) talking about the meaning of problem-based learning that it is teaching and learning that begins with problems. It's motivating students to be curious and seek more knowledge to solve the problem. This learning style is a process similar to the quest for scientific knowledge and for students to work as a team in which the instructors arrange for the students to face real problems or arrange the situation for the students to face the problem then practice the analysis process Problems and solving problems together as a group. (Tissana khammanee, 2013: 134) In addition, research has shown that problem-based learning management Change in academic performance for the better. Such as research related to problem-based processes by Phatumrat Arwusosakul (2014: 63) study the effects

of learning management in biology by using problems as a base to promote learning achievement in biology for students in grade 5 in Samut Songkhram Province. The results of the research showed that average score biology achievement after learning by problem-base learning higher than the latter.

From above information, the researcher interested to develop science academic achievement by using Inquiry-Based Learning and Problem-Based Learning in grade 1st students and studies the students' satisfaction. This is in line with the current science teaching and learning policy and for the benefit of being used to improve learning management in other courses.

**Objectives:** The objectives of this research were 1) to develop the students' science academic achievement in order to pass the criteria of 70 percent of full score, and 2) to study the students' satisfaction toward the Inquiry-Based Learning and Problem-Based Learning activities.

### **Methodology:**

**Population and sample:** The research study was conducted on 38, 1st grade students who were 6-7 years old in academic year 2018 from Kasetsart University Laboratory School Kampaeng-Saen Campus Educational Research and Development Center, Nakorn Pathom province, Thailand.

**Measures:** There are 4 measures use in this research 1) Lesson plan of the Inquiry-Based Learning and Problem-Based Learning activity, 2) Science academic achievement test, 3) Observation form, and 4) Satisfaction toward learning activity test.

**Data collection:** This research is a pre-experimental experimental research design. The research format was pre test-post test one-group design as in table 1.

pre-experimental	experimental	post-experimental
T1	X	T2

**Table 1:** This is the research design.

T1	means	test before experiment
T2	means	test after experiment
X	means	teaching management

**Data analysis:** The researcher analyzed the data with basic statistics in data analysis by using computer software as follows 1) Comparative analysis of academic achievement before and after Using Inquiry-Based Learning and Problem-Based Learning management by T-test for Dependent Samples, 2) Comparative analysis of academic achievement after Using Inquiry-Based Learning and Problem-Based Learning management with criteria of 70 percent of full score by T-test for Dependent Samples, and 3) Comparative analysis of the students' satisfaction toward the Inquiry-Based Learning and Problem-Based Learning activities by mean score and standard deviation score.

**Procedure:** There are 7 steps of the Inquiry-Based Learning and Problem-Based Learning activity. It's represent process showing how each of steps inter-connects and relate to one another as in figure 1.

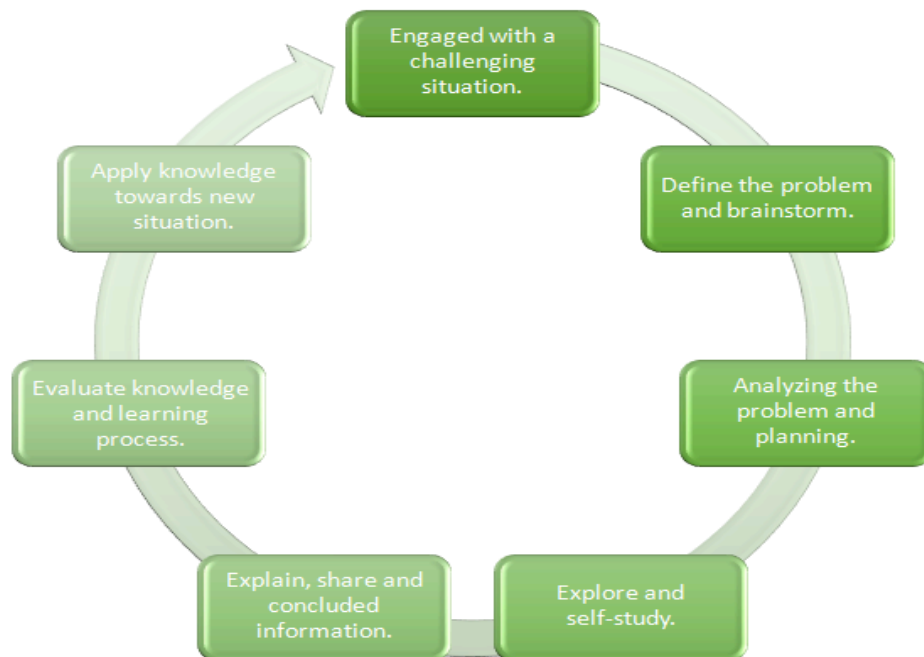


Figure 1: This is the 7 steps of the Inquiry-Based Learning and Problem-Based Learning activity

The 7 steps of the Inquiry-Based Learning and Problem-Based Learning activity are follow

- 1) Engaged with a challenging situation.** Teachers identify an appropriate problem or challenging situation for course and students. Organize students in group and engage student collaboratively in teams. This achieved by having students identify their strengths and weaknesses which will assist them as they assume different roles during the process,
- 2) define the problem and brainstorm.** Students read and discuss their team members' current knowledge and experiences that relate to the situations. Brainstorm possible solution and accept everyone's contributions,
- 3) Analyzing the problem and planning.** Students write out the problem statement in their own words for example the possible solution to problem, the actions to be taken with timeline, and what their team needs to know to solve the problem,
- 4) Explore and self-study.** Students investigate and finding by following the requirements of the activity. The findings include the problem statement, question, gathered data, analysis of the data, and support for solutions. This step shows the process and outcome of the activity,
- 5) Explain, share and concluded information.** Students present their solution and review what their have learned,
- 6) Evaluate knowledge and learning process.** Students reflect on their knowledge and the learning process, assessment, and
- 7) Apply knowledge towards new situation.** Students are engaged with challenging situation, prior knowledge is activated, and questions are provoked.





Figure 2: These are students' activity pictures

### Result:

1. The students' science academic achievement means score compare between pretest and posttest. From the data collection found that the students' mean score pretest and posttest of science academic achievement test was 5.42 and 8.25 of full score 10. The students' mean score posttest higher than pretest, statistical significance at the level of 0.05 as in table 2.

test	full score	mean score	S.D.	t	Sig.
Pretest	10.00	5.45	0.32	11.372	0.003
Posttest	10.00	8.25	0.26		

Table 2: This is the students' science academic achievement means score compare between pretest and posttest.

2. The students' science academic achievement score compare with criteria of 70 percent of full score. From the data collection found that the students' mean score posttest was 8.25 of full score 10, the students' standard deviation was 0.26, and the students' t-test score was 1.678. The students' mean score posttest higher than the criteria of 70 of full score, statistical significance at the level of 0.05 as in table 3.

test	full score	mean score	S.D.	t	Sig.
Posttest	10.00	8.25	0.26	1.678	0.000

Table 3: This is the students' science academic achievement score compare with criteria of 70 percent of full score.

3. The students' satisfaction toward the Inquiry-Based Learning and Problem-Based Learning activities. From the data collection found that The level of students' satisfaction score with the following sub-points 1) Enjoy to do activity was 4.30, 2) Like the place to study was 4.50, 3) Lesson easy to understand was 4.00, 4) Content interesting and useful was 4.80, and 5) Teacher give advice and help was 4.00 of full level 5.00. The level of students' satisfaction toward Inquiry-Based Learning and Problem-Based Learning activities was in high level as in table 4.

Components of students' satisfaction.	mean score	level of students' satisfaction
1. Enjoy to do activity	4.30	high level
2. Like the place to study	4.50	high level
3. Lesson easy to understand	4.00	high level
4. Content interesting and useful	4.80	high level
5. Teacher give advice and help	4.00	high level
Average	4.30	high level

Table 4: This is the level of students' satisfaction toward the Inquiry-Based Learning and Problem-Based Learning activities.

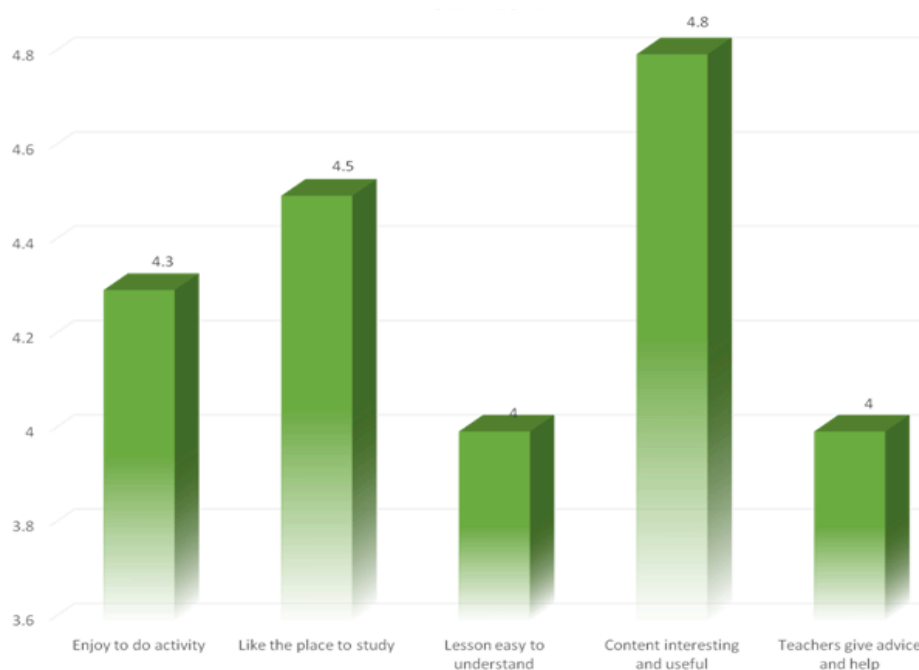


Figure 3: This is the level of students' satisfaction toward the Inquiry-Based Learning and Problem-Based Learning activities.

## Conclusion

The science academic achievement Academic achievement of students grade 1<sup>st</sup> by using inquiry-based learning and problem-based learning after learning higher than before learning and the students' mean score posttest higher than the criteria of 70 because the learning management stimulates the interest of students to become enthusiastic in their activities. Therefore allowing students to learn that can create self-understanding. In each step of learning management allowing students to act on their own and focusing on the training of group work skills, the exchange of opinions among members within the group. In addition, the content that is included in the learning activity it's not too difficult or too easy for the learners. Teachers are

arranged from easy to difficult, consideration of the potential of intellectual development of students is important. These activities results in a higher student achievement.

This study conclude that there is considerable support for the Inquiry-Based Learning and Problem-Based Learning activities workable because it encourages the activation of prior knowledge in the group setting and provides opportunities for elaboration on that knowledge. These activities facilitate the comprehension of new information related to the problem and enhance long-term memories. In addition, there is evidence that problems arouse situational interest that drives learning. Flexible provided by cognitively and socially congruent teachers also seems to be reasonably effective. Group work encourages students to study regularly. Initially, students do not study much beyond the learning issues generated; the development of personal agency in self-study needs time to develop. Students also analytical and solve the problems under working together, searching information from a variety of learning sources and summarize what they has been learned.

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## ***Teaching How to Give: Charitable Giving Education in Japan***

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### **Abstract**

This article examines how the importance of charitable contributions is discussed and taught in Japan. In response to the financial crisis of the 2000s, many Japanese institutions, such as the Financial Service Agency, started to re-emphasize the significance of financial education. Newly-made financial educational resources, including textbooks, workshops, and seminars, became available. Some included discussions of charitable giving alongside more conventional topics such as planned spending and saving. Through an examination of educational materials, workshops, and classes on giving, this article suggests that financial educators and instructional materials encourage a new type of giving. Traditionally, Japanese giving was characterized by a sense of conventional obligation to society and impromptu responses to unexpected circumstances. In contrast, current materials and workshops emphasize charitable contribution as an expression of one's intentional civic commitment. Through lectures and exercises, these workshops provide information about the specific aims of charitable organizations and encourage participants to make informed decisions about where to direct their giving. Current giving education, therefore, proposes a new style of giving. However, this analysis suggests that due to the lack of discussion on how to make a habit of giving and how to evaluate that giving, the extent to which giving education fosters long-term commitments to this style of charity remains unclear.

Keywords: Charitable Contribution, Financial Education, Japan, Gift, Philanthropy

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## Introduction

This article examines educational materials and lessons about charitable contributions in Japan. Since the late 2000s, there has been growing interest in financial literacy education. This is partly in response to the global financial crisis of 2007–2008. The profound social impacts brought about by that crisis caused the Japanese government and many institutions to realize that an ability to understand the global economy and to make responsible financial decisions is essential to meeting the challenges of the ever-changing global economy. Many Japanese institutions, such as the Financial Service Agency and the Japanese Bankers Association, started to promote financial education through the provision of printed and on-line brochures, textbooks, information videos, and seminars. Reflecting Japan's changing economic contexts, these materials include novel topics, such as charitable giving. An examination of instructional materials and actual lessons suggests that they promote a new culture of giving. Lesson facilitators and the creators of instructional materials encourage citizens to practice charitable giving as an expression of their active social engagement. I suggest that this form of giving differs from more traditional forms of financial contribution practiced in Japan, while partially incorporating the gift-exchange framework of Japanese culture.

## Financial Education and Charitable Contribution in Japan

Financial literacy education in Japan has long been promoted in a variety of ways, including discussions in the home about the management of household finances. Schools have also been an important source of learning about money and, historically, school lessons tended to focus on saving. Soon after World War I, for example, the phrase “Kodomo Ginko” [Children's Banks], encouraged school students to save (Yoshikawa, 2016). Partly due to such nation-wide efforts, Japanese household saving rates were relatively high until the 1990s (Horiguchi & Kanazawa 2000; Maekawa, 2010).

Since the 1990s economic changes have led to a shift in Japanese financial education to focus on spending and investment. With the collapse of the bubble economy in Japan in the 1990s and the economic recession that followed, it became difficult for many households and individuals to maintain these saving practices. At the same time, credit cards became more common in Japan. Concerned with the possibility of young people confronting financial trouble, Japanese financial agencies and banks renewed their efforts to update financial education materials. The 2005 fiscal year was named the first year of financial education (Fukuhara, 2012). With governmental support, financial institutions and agencies worked in collaboration with public schools to promote financial education.

While the aim of these efforts was the promotion of sound spending practices and the avoidance of debt, current financial education aims to educate people to make decisions based on adequate financial knowledge. In addition to providing lessons on day-to-day personal financial management, these lessons offer discussions of the role of financial management in planning one's life and setting personal goals. For example, the Shiruporuto website, run by Kinyu Koho Chuo Inikai, a major Japanese organization promoting financial literacy, encourages viewers to consider life course

events, such as attaining full-time employment, getting married, rearing children, and retirement. Through discussions of how money plays an important role in these life events, the website prompts viewers to consider the integral role that personal finance can play in their lives. It also provides additional resources exploring how to use financial and other resources to realize personal goals and to prepare for potential financial risks.

The subject of charitable giving is also included in some of these educational materials. While charitable contributions may not seem to directly relate to one's life events or personal goals, they can be used as an example of the social consequences of one's spending. Encouraging financial support for welfare and other social service programs is becoming increasingly important in Japanese society. With a rapidly aging population, there is an increased need for diverse social welfare and social programs, alongside those provided by the Japanese government. One way to widen financial support is through making charitable contributions. In this context, some educational materials present charitable contribution as one topic within broader financial education.

The amount of charitable contributions made by Japanese citizens has slowly grown over the last decade. Although 2012 witnessed a decline in charitable contributions, 2011 was an exceptional year, due to the marked response to the Great East Japan Earthquake (Kifuhakusho Hakko Kenkyukai, 2017). The reasons behind the growth in charitable contributions is complex and requires further exploration, but repeated natural disasters, the growth in non-governmental welfare and community services, and changes in tax policies may be relevant. With these changes, the social impact of spending has become more widely recognized in Japan.

However, from a global perspective, Japanese charitable contributions remain relatively small. In 2016, individual charitable contributions in Japan amounted to 775.6 billion yen. In the UK and the USA, this amount was over 1.5 trillion yen and 30.6 trillion yen, respectively. Japanese charitable contributions are also small in relation to nominal GDP. In 2016, the Japanese contribution ratio to nominal GDP was 0.14 %, compared to UK and USA ratios of 0.5% and 1.44 %, respectively (Kifuhakusho Hakko Kenkyukai, 2017). This suggests that Japanese contributions can grow even more. Alongside a broader trend to include spending as an important part of financial education, these social and economic contexts play a role in the appearance of lessons and educational materials on the topic of charitable contributions.

### **Charitable Contribution Educational Materials and Lessons**

This article focuses on two of the most active organizations that have published charitable contribution educational resources in recent years: Nihon Fando Reisingu Kyokai [Japan Fundraising Association, JFRA] and Nihon Firansoropi Kyokai [Japan Philanthropic Association, JPA]. While their specific objectives differ, both promote a variety of civic organizations and activities through non-governmental funding. One such activity is the promotion of charitable contribution education. Because lessons about charitable education are sometimes referred to as “Kifu no Kyoshitsu,” meaning charitable giving classrooms, lessons that promote charitable spending are hereafter referred to as “giving education.”

The organizations provide a diverse range of resources, including printed and on-line books and brochures. Some are available free of charge, while others must be purchased. They also offer seminars and workshops to those who are interested in facilitating discussions on charitable contributions. For this study, I examined five lesson plans and nine examples from JFRA handbooks and reports, and five examples from a JPA guidebook. I examined the topics appeared in these lesson materials. The results are shown in Table 1.

I also participated in two JFRA seminars and observed two classroom lessons by trained facilitators in 2017 and 2018. To raise awareness of the importance of charitable contributions, JFRA periodically offers these events in different parts of Japan. Seminar participants include teachers, non-profit organization staff, researchers, local government employees, private company employees, and retired people. Some are obliged by their employers to participate in these events and others out of personal interest. Seminar participants are invited to actual lessons held in schools and other institutions. With several observations, seminar participants can be facilitators of the lessons.

Many of the giving education lessons are held at schools, although the lessons are not exclusively held for students. For the sake of convenience, this article refers those who receive giving lessons (the targeted audience of the giving education) as students. The lessons I observed were held in a private high school in the Kyushu region (in the south-west of Japan) in fall 2018, and there were about ten observers from across Japan. The main facilitator and his assistants for these lessons were trained at JFRA seminars. Detailed notes were taken at these events for the purpose of exploring how charitable contributions were presented and discussed.

A close examination of lesson plans, examples, and lessons suggests that emphasis is placed on two particular aspects of charitable giving: giving as an expression of social engagement and voluntary giving. These two characteristics place charitable contribution in a unique position in relation to Japanese gift-exchange practices, as suggested in previous studies

### **Charitable Giving as a Form of Social Engagement**

The first characteristic of giving education is an emphasis on charitable contributions as a form of social engagement. This emphasis seems reasonable, considering the purpose of these lessons is to encourage charitable giving. However, the way that giving is presented to students is of some interest. In giving education lessons, contributions are presented as something that students can do, and are encouraged to do, as members of society, as a way to participate in problem-solving in their communities and in the world beyond.

In a lesson held at a high school, for example, the facilitator distributed empty chocolate boxes. It was stated on the boxes that a portion of the profits would be used to promote education and welfare for children in Ghana. Pointing to this message, the facilitator drew the students' attention to the ways in which their daily spending can relate to solving problems around the world. Because each of these chocolate boxes cost approximately 100 yen (less than 1 US dollar), they served as an example to help



students consider how their spending could be part of their charitable contribution. Furthermore, because this product promoted children's education, it was relatively easy for the students to understand the importance of the social cause. Although this specific situation was located in Ghana, the issue of education was something the students could easily relate to.

Written educational materials also stress giving as a way to engage with social problems around the world. For example, one lesson relates to the Social Welfare Council in Saitama (Nihon Firansoropi Kyokai, 2016), where students became committee members and decided how to allocate contributed money to civic voluntary activities and social programs. The purpose of this arrangement is to highlight that the students can also play an important role in improving their local community. Because the students in this particular lesson were from the same community, they were familiar with the programs that needed financial support. Most also had experience of giving money to schools and elsewhere. In this context, allowing students to participate in funding allocation decision-making helps to foster a sense of civic engagement and responsibility. As Table 1 suggests, while exact examples and exercises vary, all include materials and lessons of activities to encourage students to consider that giving can be a way to participate in solving social problems in their own communities and around the world.

It is important to note that, in this lesson, monetary contribution was not simply a matter of relinquishing ownership of one's money. Rather, a relationship between the giver and the receiving organization was implicitly assumed. As members of society, students in this lesson were encouraged to donate to organizations that help to solve problems. Although the giver might not receive immediate benefits from giving, it was assumed they could indirectly get something in return, by contributing to the betterment of society.

Scholarly discussions of gift giving in the context of Japanese culture shed some light on this emphasis on relationships through charitable giving. In Japan, giving is often associated with feelings of indebtedness. Rather than framing an item as a gift, an exchange model that assumes something will be given in return is socially preferred (Ito, 1995; Nihei, 2011). This tendency is particularly noticeable when the gift is given for something unconventional. Nihei (2011), therefore, suggests that social welfare organizations have made on-going efforts to avoid feelings of indebtedness being associated with monetary and other donations. However, once an exchange relationship can be recognized, charitable contributions will expand. Yamaguchi (2016) claims that, historically, the sense of mutual support created through the framework of gift exchange played an important role in creating nation-wide assistance for victims of natural disasters, wars, and other crisis events in Japan.

Given this cultural emphasis on the mutual relationships created through giving, presenting charitable contribution as a form of social engagement can be very effective. As the above examples suggest, lessons encourage students to consider the social impacts of their daily spending. Furthermore, because lessons and educational materials present giving as a means to respond to local and global issues of relevance to the students, they are encouraged to fulfill their social role through giving. In these educational materials, the creation of feelings of indebtedness is minimized. Rather, as Yamaguchi (2016) demonstrates, lessons serve to foster a sense of mutual

responsibility. Thus, in order to strengthen the message, these lessons and educational materials tactfully present charitable contribution within a Japanese cultural framework of gift exchange.

### **Charitable Giving as Voluntary Action**

Charitable contribution lessons and educational materials do more than simply draw on existing cultural frameworks to promote charitable giving. They also demonstrate a type of giving that differs to that typically practiced in Japan. In other words, these educational materials incorporate exercises and specific instructions to promote giving practices based on individual decision-making processes.

In one lesson, for example, students undertook an exercise in which they were asked to decide where to allocate their charitable contribution. After explaining the social impacts that donations can make, the facilitator then oversaw an exercise in which students discussed and decided where to give their money. The facilitator showed short video clips about three non-profit organizations and their projects. These organizations, respectively, promote children's education in Ghana, provide consulting support for youths who have dropped out of schools and/or are socially excluded, and promote employment support for those with mental and physical disabilities. The facilitator first showed the video clips and provided a short explanation. Next, each student was given a card that represented 500 yen. The students were then asked to discuss, in groups, where they would give the money. Following 10 minutes of group discussion, the facilitator assured the students that it was acceptable if their opinions differed, but they should respectfully listen to each other's opinions. Each group then explained to the other groups to which organization they had decided to donate their money and their reasons for doing so.

The facilitator spent time listening to and offering comments about the reasons behind each group's decision. The facilitator concluded the exercise by stating that there are many other organizations and social projects, and encouraged students to explore these other organizations and find those that they would like to support. As the facilitator gave specific instructions to respect individual opinions and then focused on each group's final decisions, the objective of this exercise was to provide an opportunity for students to make their own decisions about where to donate their money based on their own assessments of how they would like to offer support.

Educational materials similarly emphasize the decision-making aspects of giving. For instance, in the Social Welfare Council in Saitama example mentioned earlier, students are specifically provided with the opportunity to take part in grant allocation decision-making. In an attempt to promote a sense of civic responsibility and engagement in younger generations, students were invited to participate in decision-making discussions. Other cases and suggested lesson plans also include diverse activities, such as fundraising for specific projects, all of which emphasize active decision-making about to which organizations and for what reasons donations should be given.

As these examples suggest, giving education lessons and educational materials encourage personal decision-making. While charitable contributions are encouraged, the exercises give students the opportunity to decide to which organizations and in

what ways to give. As the Social Welfare Council example shows, charitable contributions are presented as active action and an expression of one's social participation.

However, Japanese giving practices are not always seen to be the result of voluntary decision-making. Tsukuba (2008) and Nihei (2011), among others, argue that monetary contribution in Japan is frequently practiced within a context of strong peer pressure. This has to do with the way in which money is solicited. Contributions in Japan, including those for charitable causes, are often collected in schools, neighborhood associations, offices, and companies. These institutions frequently provide suggested donation amounts that each person can give. In addition, they may publicly announce the amount of money they intend to raise. Because people study, socialize, and work in these institutions on a daily basis, they are more likely to feel obliged to contribute, even if they have no particular desire to do so. Nihei (2011) argues that such solicitation can be found in Japan as early as the late 19<sup>th</sup> Century. With such historical roots, charitable giving is often associated with high levels of peer pressure.

Furthermore, the ways in which contributions are typically collected in Japan makes it difficult for individual donors to have a clear idea of how their money is put to use. Japanese schools and other institutions often routinely collect charitable contributions at specific times of year. For example, many schools participate in Akai Hane Bokin (Charitable Contribution for the Central Community Chest, also known as the Red Feather) in fall and in the Midorino Bokin (the Green Fund) in spring. These are well-known organizations that support numerous social projects. However, precisely because of the scale of their operations, it is difficult for individual donors to understand how their donations are put to use. In addition, because campaigns for these contributions are frequently held at specific times of year, people associate their contribution more with seasons of the year than with specific causes. There are exceptions to this, of course, such as support for specific natural or humanmade disasters. However, the charitable contributions routinely solicited by schools and other institutions are generally for large organizations, such as Akai Hane Bokin.

For these reasons, charitable contributions in Japan suggest that individuals experience peer pressure to give and have only a vague understanding of how their donated money is used. It is important to note that these characteristics do not necessarily lead to poor results. Systematic and institutional solicitation of money provides considerable financial support for charitable organizations, and, because donations are not strongly associated with specific programs, philanthropic organizations have some flexibility when allocating funding to reflect time- and program-specific needs and demands.

In comparison, the charitable contributions promoted through education lessons differs considerably to this type of giving. These lessons include instructions and exercises that allow children to make decisions based on information about the causes to which the money is given. They also emphasize the importance of respecting the opinions of others, even though they may differ to one's own. Because there is no one correct answer regarding to which organization to give, students feel less pressure to conform to the decisions of others. The lessons teach the participants to contribute based on their own ideas and beliefs.

These lessons and educational materials present giving in a way that differs considerably from the way that giving is typically practiced. Students in the giving lessons are encouraged to view the act of charitable contribution as based on their own decisions, rather than an act of following the actions of others. Such a contrast can significantly promote charitable giving. By perceiving giving as an expression of one's own decisions, students begin to conceptualize monetary contributions as an important means of social engagement.

### **Topics Excluded from Charitable Giving Discussions**

Charitable contribution lessons and educational materials suggest that they emphasize giving as a way to express one's active engagement in addressing social issues. Further examination, however, suggests that several aspects of giving are not fully explored in these education materials. As Table 1 suggests, there is little discussion about how to allocate charitable contributions and how to assess the effectiveness of one's giving decisions. Similarly, in the lesson introduced earlier, the discussion started from a point where the individual had money to give. There was little discussion on where this money might come from or what the amount of money might mean to the individual. Class discussions stopped at the point of contribution. Additionally, none of the class time was devoted to how the students could evaluate their giving decisions. Finally, while the need for financial contribution was explained, there was no discussion on how to make charitable contribution a routine part of one's life.

In reality, individuals are likely to experience competing demands for money. Practical suggestions and exercises about how to set aside money for charitable causes would be useful. In addition, discussion about methods to follow-up and assess the impact of donations would be helpful in promoting further social engagement beyond giving.

A lack of discussions such as these may be due to the relative newness of these lessons and educational materials and their focus on promoting charitable giving. However, studies of charitable giving from other countries suggest that these topics are important (Naka, 2011; Zaloom, 2016). Effectively incorporating these topics into lessons and educational materials should be explored in future research.

### **Conclusion**

This article explored how charitable giving is discussed in lessons and educational materials. These lessons and materials suggest a specific understanding of giving. Students are encouraged to understand their charitable contribution actions based on their own decisions and as an important means of social engagement. On the one hand, using the cultural context of appropriate gift exchange, financial contributions are presented as based on mutual relationships, in which there are civic expectations to give for the benefit of society. On the other hand, by carefully framing giving as a voluntary act based on individual choice, charitable contributions are presented as different from popular perceptions of giving as semi-obligatory practices engaged in due to peer pressure. By providing a new way to perceive giving, these lessons seek to promote interest and participation in providing financial support for philanthropic and

charitable activities.

It remains unclear, however, to what extent this new type of giving is practiced. This is due to the fact that some topics, such as how to effectively allocate money, are not currently included in these lessons and educational materials. While covering such topics may not be essential to fostering philanthropic contributions, a broader discussion about giving can help citizens to explore and consider the potentials of charitable giving in Japan.

Topics of Discussions	Lessons in JFRA		Lessons in JPA		Model Guidelines in JFRA	
	# of Lessons	%	# of Lessons	%	# of Lessons	%
Giving as a Way Contribute to Society	9	100	5	100	5	100
How to Allocate Charitable Money Amid Other Spending Activities	1	11	0	0	0	0
How to Raise Charitable Contribution Money	2	22	5	100	3	60
NGOs and Charitable Organization Activities	8	89	2	40	5	100
How to Choose to Which Organizations to Give	8	89	1	20	4	80
Specific NGO Activities	6	67	1	20	1	20
How to Make a Group Decisions about to Which NGOs to Give	8	89	1	20	4	80
Non-monetary Ways to Support NGOs	4	44	1	20	1	20
Non-monetary Ways to Participate in NGO Activities	2	22	1	20	3	60
How to Assess Effects of Donated Money	0	0	0	0	0	0
How Use Contribution for Own Projects	0	0	2	40	0	0
Ceremony for Giving or Appreciation of Giving	4	44	1	20	2	40
How Donated Money is Used by NGOs	0	0	1	20	0	0

Table 1: Topics Discussed in Educational Materials on Charitable Giving

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***Achieving Quality in Education Under SDG 4 - Financial Challenges and Gaps  
from an Indian Perspective***

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**Abstract**

India has shown significant progress in increasing the literacy levels of children in both primary and elementary education. Consistent efforts are being made to enhance enrolment rate, retention and attendance of students to truly universalise education in India. The country still faces many issues in education sector ranging from gender inequality to quality of content being imparted. This paper aims to review the status of education in India, particularly in light of the Sustainable Development Goal (SDG) Number 4. This goal aims to promote inclusive education for all with a focus on equity and quality. India is a very important stakeholder in SDGs and therefore, it is relevant to study the current education policies and programmes of the Government and analyse whether they are aligned with the international goals. This paper also discusses upcoming trends in education like the Draft National Education Policy, 2019 (NEP), which is being projected as an important step to align Indian education sector with SDG Goal 4. The paper uses secondary sources of data, which includes government data, research articles, independent studies and institutional reports. This paper identifies some critical gaps and challenges still existing in education sector such as inadequate resources, budget constraints, lack of basic infrastructure, low teacher recruitments and gender discriminatory practices. Lastly, some suggestions are proposed to solve the issues identified.

Keywords: India, Sustainable Development Goals, Inclusive Education, Equity, National Education Policy

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## 1. Introduction

In year 1992, the “Earth Summit” was held in Rio de Janeiro, Brazil and “Agenda 21” was adopted by more than 178 countries (UN, 2020), which proved to be a watershed event for all humanity. This agreement laid the roadmap to create a sustainable and better future for the entire world. It was followed by the ‘Millennium Summit’ in the year 2000, where eight Millennium Development Goals (MDGs) were adopted to improve human development parameters by 2015. These initiatives subsequently culminated with the adoption of ‘The 2030 Agenda for Sustainable Development’, in form of 17 Sustainable Development Goals (SDGs) to improve human lives and protect the environment at the same time. Among these SDGs, Goal 4 relates to education titled as “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (UN, 2015). This goal is further divided into seven targets and three sub-targets, which can broadly be categorized into five groups namely gender equality, youth and adult literacy, life-skill learning for sustainable development and improving educational infrastructure (Panmei & Kumar, 2018). Being cross-linked in nature, these are complemented by other SDGs like Goal 3 Target 3.7 (health and well-being), Goal 5 Target 5.6 (gender equality) and Goal 8 Target 8.6 (decent work and sustainable growth), etc. (SDG-Education 2030 Steering Committee, 2020). Together, all these targets have been designed to increase the access and quality of education in countries, while also making it equitable.

India is a key stakeholder in this global partnership of 193 countries. With more than one billion people, it is part of the world’s emerging economies which account for highest proportion of poorest communities (Wada Na Todo Abhiyan, 2017, p. vii). Even though India has shown a remarkable progress in economic growth, becoming the fifth largest economy in the world (current prices) (IMF, 2020), its performance is lagging in human development indices, particularly education and health, and still remains home to 28 percent of the world’s ‘multidimensional’ poor people (UNDP, 2019). About a third of India’s population is in the age bracket of 15-34 years (GOI, 2017, p. 3), thus, bolstering the importance of education for a sustainable growth in the country. Therefore, it is critical that India takes all the necessary measures to improve its current global rank of 115 in the SDG Index (Sachs, Schmidt-Traub, Kroll, Lafortune, & Fuller, 2019, p. 21) and ensures that they are achieved by 2030.

Government of India is implementing many policy interventions to achieve the targets set out in SDG 4. By roping in private players like NGOs and civil society groups, it has consistently tried to increase the reach and quality of education. Programmes such as *Sarva Shiksha Abhiyan* (SSA) (or Campaign for Universal Education), along with its schemes like National Programme for Education of Girls at Elementary level (NPEGEL) and *Kasturba Gandhi Balika Vidyalyaya* (KGBV), have shown a significant impact in improving girls’ education at elementary level. Similarly, other interventions such as passing of the Right of Children to Free and Compulsory Education Act 2009 (hereafter RTE) (which made free education a fundamental right), Mid-Day meal scheme (which provisions for nutritious meal to children studying in classes I to VIII) and a nation-wide umbrella National Education Mission, have helped India improve its performance in some parameters of education like gender parity, youth and adult literacy and teacher training. India is committed to achieve the targets under SDG 4, which is evident from the recently published Draft National Education Policy (NEP), 2019. The details of this policy will be discussed



later in this paper, however to point out briefly, a major difference between the new draft versus the previous NPE 1986/92 is that the new proposed policy has been realigned to match SDGs and highest priority has been accorded to the task of ensuring universal access to education, removing gender disparity and focusing on quality education and learning outcomes (GOI, 2019, p. 27).

One important issue with respect to India's education sector versus the aims of SDG-4 stems out from the concerns regarding the quality of education being imparted in schools and the lack of adequate financial resources allocated to the programmes and schemes. Education is listed in the concurrent list of the Indian Constitution, meaning that both Centre and State have responsibility towards it. While majority of the expenditure on education is made by States, the Centre plays its role by allocating funds under Centrally Sponsored Schemes (CSS) and grants-in-aid. It has been often pointed out that the social sector expenditure at the State level has not risen significantly. Specifically, for the health and education parameters, the expenditure has risen only in 9 States in the current decade (2010-11 to 2017-18) versus 1990's (Mate, et al., 2018). With quite ambitious targets set for education sector in SDGs, India needs to sort these issues if it really wants to achieve them by 2030. This paper first discusses the progress made by India related to SDG-4 and then highlights the financial challenges and gaps in the present system. Finally, some suggestions are proposed to address these genuine concerns.

## 2. Progress in making education inclusive and equitable in India

Unlike MDGs, the SDGs went through a process of extensive consultations. Even though some critics, like Unterhalter (2019), have raised objections about the inadequacy of the metrics used to measure the targets, they are mostly accepted to be fair to the overall objective of sustainability. In order to get a holistic understanding about why SDG Goal 4 is so critically important, it will be useful to know some facts about the status of sustainable education at the global level. These are presented in Table 1 below (UNESCO, 2017-18, pp. xvi-xvii):

**Table 1: Monitoring SDG 4 at Global Level (Some Facts)**

Target	Status
Target 4.1: Primary and Secondary Education	About 387 million children of primary school age, or 56%, did not reach the minimum proficiency level in reading.
Target 4.2: Early Childhood	Just 17% of countries legally stipulate at least one year of free and compulsory early childhood education.
Target 4.3: Technical, Vocational, Tertiary and Adult Education	Very few adults who have not completed primary education go back to school.
Target 4.4: Skills for Work	Most adults in low- and middle-income countries do not have even basic computer skills.
Target 4.5: Equity	Only 66% of countries have achieved gender parity in primary education, 45% in lower secondary and 25% in upper secondary
Target 4.6: Literacy and Numeracy	The adult literacy rate is below 60% in low income countries.
Target 4.7: Sustainable Development and	In 2009-2012, only 7% of teacher education programmes covered education for sustainable development.

Global Citizenship	
Target 4.A: Education Facilities And Learning Environments	In half of 148 countries, less than three-quarters of primary schools had access to drinking water.
Target 4.B: Scholarships	Aid spending on scholarships decreased by 4% to US\$ 1.15 billion from 2010 to 2015.
Target 4.C: Teachers	Globally, 86% of teachers are trained at the primary school level.

Source: UNESCO Global Education Monitoring Report: Accountability in Education, 2017/18

From the above table it is evident that much more needs to be done to make education truly sustainable. This is not surprising considering how vast and multi-layered this issue is. It also gives us a perspective that being the second most populated country of the world, India naturally faces more complexities and will require sustained efforts in the direction of quality education. India has made significant progress in the area of enrolment in schools and female participation up to secondary school level (GOI, 2018, p. i). In 2019, the net primary enrolment rate was 92.3% and the lower secondary completion rate stood at 85.9% (Sachs, Schmidt-Traub, Kroll, Lafortune, & Fuller, 2019, p. 233). The national literacy rate (age 5 and above) was 76% with male literacy rate at 83.6% and female literacy rate a little lower at 68.1% (GOI, 2018). Although the country has seen an improvement in literacy rates, however, the national rate remains lower than the global average of 84% (UNESCO, 2016).

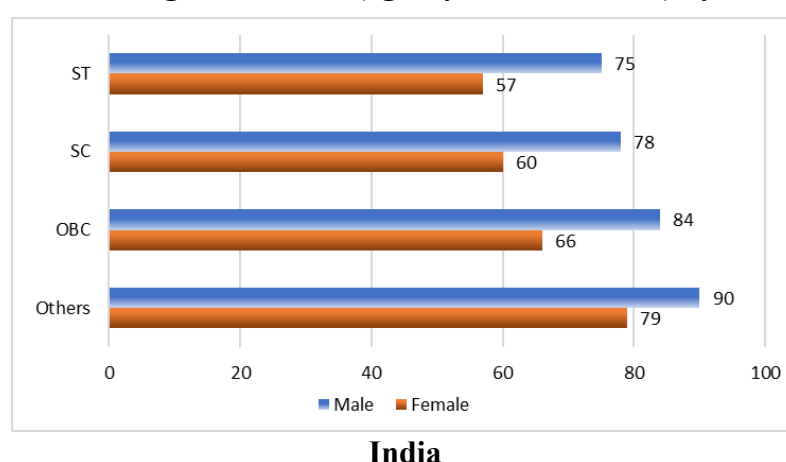
Government of India has given highest priority to address the challenges in the education sector (Panmei & Kumar, 2018). NITI Aayog (which is the national think tank of the government) is the primary agency, which is responsible for ensuring co-ordination among various Ministries and Departments (Jain, 2018). It has selected many priority indicators in its Three-Year Action Agenda (2017-18 to 2019-20) for monitoring the implementation of schemes and periodic meetings are held at State and National level to make sure that a common direction is being followed. Further, Ministry of Statistics and Programme Implementation (MOSPI) has collaborated with NITI Aayog to come out with a National Indicator Framework (NIF) in 2016, which forms the backbone of all monitoring plans for SDGs and gives key data inputs to policy makers for further calibration (GOI, 2016). The progress relating to SDG Goal 4 in India can be discussed as per the key words of the goal i.e. inclusive, equity and quality.

## 2.1 Inclusive Education

There are three groups which have been given focus to make education in India more inclusive – marginalized, adults and differently-abled children. As discussed above, RTE Act, 2009, was a paradigm shift to make education inclusive. Not only it guarantees free and compulsory education for all, it also reserves one-fourth of the seats in private schools for children from Economically Weaker Sections (EWS) of the society, thereby bringing children from marginalized sections like Schedule Tribes, migrants and disabled into the mainstream (Pandey, 2018). To increase adult literacy in the country, the government runs a national scheme called *Saakshar Bharat Programme* (SBP) (earlier called National Literacy Mission). More than 19 million adults (age group 15 and above) benefitted from this programme in the year 2016-17

(GOI, 2018, p. 7). To make education inclusive for differently-abled children (or children with special needs), India ratified the UN Convention on Rights of Persons with Disabilities (UNCRPD) in 2007 and also passed a landmark legislation called 'Rights of Persons with Disability Act, 2016' (RPD Act) (Jindal, 2016). As per Census report, 2.2% of the Indian population is disabled out of which about 45% is illiterate (GOI, 2011), which roughly translates to more than 13 million people. Government of India aims to make education inclusive for them through specific components like Education Guarantee Scheme (EGS) and Alternative and Innovative Education (AIE) under *Sarva Shiksha Abhiyan* (Singal, 2009). Graph 2.1 below depicts the percentage of literates (age 7 years and above) by social group in India (GOI, 2014):

**Graph 2.1: Percentage of literates (age 7 years and above) by social group in**

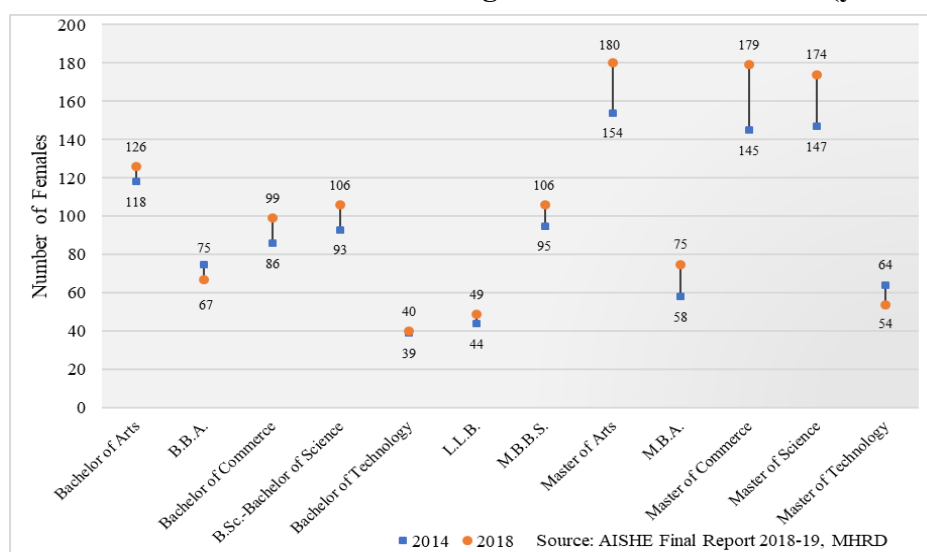


Source: NSSO 71<sup>st</sup> Round (January – June, 2014), page 21

## 2.2 Equitable Education

Equity in education is often linked to the concept of gender parity in schools and colleges. India has made very good progress in increasing the Gross Enrolment Ratio (GER) and Gender Parity Index (GPI) over the previous decade (Panmei & Kumar, 2018). This has been made possible by various initiatives such as residential schools and hostel facilities, free textbooks and uniforms, nutritious food in schools, financial aids, improvement in infrastructure, mass media campaigns, etc. All these efforts have resulted in improving the GER of both boys and girls, with the best results visible at primary level of education. As per a survey, India has achieved a GPI of more than 1.0 till senior secondary level, although inequality exists in private versus government schools, where parents tend to prefer sending boys to the former and girls to the latter (GOI, 2018, p. ii). Another way of analysing equity in education is by looking at the participation of females in fields which are traditionally considered to be “male-oriented”. From the data available for higher education, it is seen that females outnumber males in undergraduate and graduate courses such as arts and education and their number has been steadily growing in non-traditional fields like science and commerce also (GOI, 2018-19). Graph 2.2 below represents this trend in regular mode of higher education.

**Graph 2.2: Female per 100 Male Students in important Programmes at Under-Graduate & Post-Graduate Level in Regular mode of Education (year 2018 vs**



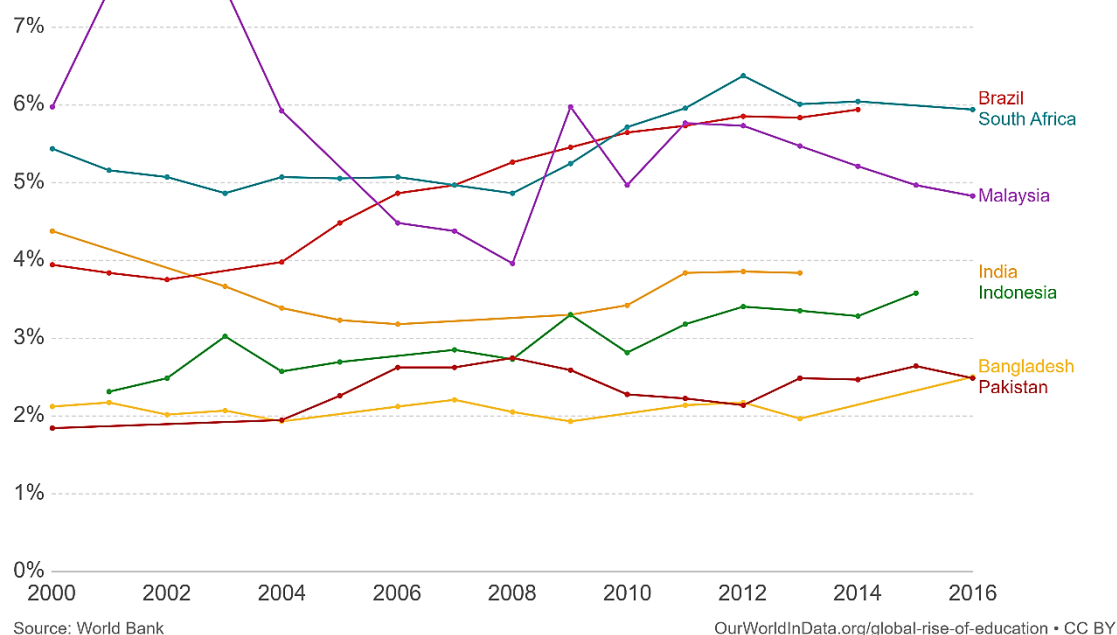
2014)

### 2.3 Quality Education

The subject of quality education is assessed in terms of learning outcomes, teacher quality and infrastructure quality. India has struggled in all these areas with most studies pointing out that even though there has been progress over the years, much remains to be desired for (Kingdon, 2007). *Pratham*, an educational NGO, in its annual survey has found that 1 out of 4 children in rural India pass eight standard without basic reading skills, although this figure is decreasing every year (ASER, 2018). There are many measures taken by the Government to address this problem. To improve the quality of teacher training a National Teacher Platform (named *Diksha*) has been launched in 2017, which forms a part of the National Mission on Teachers and Teaching launched in 2014 (GOI, 2018). A lot of focus is being given to learning and development through Information and Communication Technology (ICT) for both students and teachers. Further, there have been periodic reviews in the grading system for students under the ambit of RTE Act to increase performance. At the higher education level, Ministry of Human Research and Development (MHRD) is promoting quality in research through incentives such as fellowships and scholarships.

### 3. Challenges and gaps in the present system

A lot has been discussed above about the progress made by India in line of SDG Goal 4. Most experts agree that the targets of this goal are quite ambitious and India faces many challenges in its path to achieve it (Mate, et al., 2018). The biggest challenges that it faces is related to the inadequate financial resources allocated by the Government to education sector. According to a report by Bhamra, Shanker, & Niazi (2015), out of the estimated finance of USD 2258 billion required for SDG Goal 4, there exists a gap of at least USD 740 billion, which has not been allocated in the budget till date. This gets co-related by the analysis of the annual government expenditure on education in terms of its Gross Domestic Product (GDP), which is presented in Graph 3.1 below (World Bank, 2017):

**Graph 3.1: Country-wise Government Expenditure on Education as Percentage**

**of GDP**

The above graph shows that in the year 2014, India spent less than 4% as a percentage of its GDP on education, which is quite low as compared to some other similar low middle-income countries. This is low even when compared to the suggestions of many committees like Kothari Commission (1966), which suggested that it should be a minimum of 6% of GDP. India is one of the largest economies of the world and has the financial capacity to spend more on education to improve education quality. However, at the global level, India's spending on education is quite less than the OECD countries, which shows in its rank of 62 (total public expenditure on education per student) and a consequent negative impact on its world talent ranking where it ranks 59<sup>th</sup> among 63 countries (IMD, 2019). Thus, even though the government boasts of keeping education as one of its top priorities, it does not get reflected in the allocation of resources for the same.

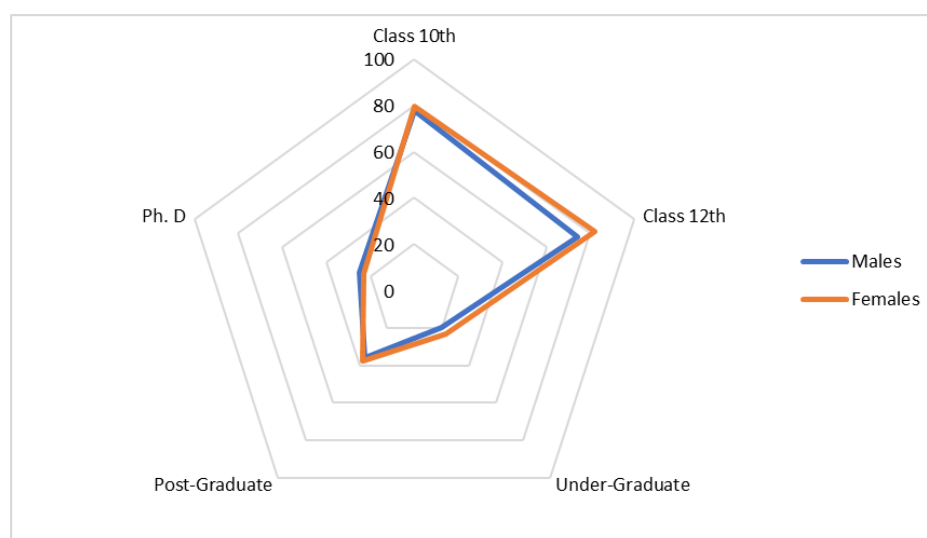
Another critical challenge related to financial resources is the wide gap in planning between Centre and States. As mentioned above, the responsibility for promoting education is of both the Central and State Governments. However, most States in the country are spending much less on each student. As per the 73<sup>rd</sup> and 74<sup>th</sup> Constitutional Amendment Act, local governments must get enough funds to prepare plans and budgets as per the need of the local people. The data available shows that this is not happening and as a result local government are not empowered enough to take meaningful steps. This is important because without the active participation of local governments, the Central government cannot expect to reach the grassroot level for fulfilling the targets of SDG Goal 4. This also gets reflected in the way SDGs are being monitored at the State/Local level. While NITI Aayog is the co-ordinating agency at the national level, the State Planning Departments and Boards are responsible for collating the data at the local level. But very few States have created the necessary system (which includes policies, trained manpower, monitoring

parameters, human resources, etc.) to which can match the requirements of the new task. The national auditor of India in its detailed performance audit on implementation of RTE Act highlighted “mismatch of unspent balances at the end of the year with opening balances of succeeding years, short release of funds and retention of huge balances by state governments, and non-adherence to expenditure norms.” (CAG, 2017). Weak monitoring of outcomes of schemes and programmes affects the feedback necessary to re-calibrate the existing policies.

Inadequacy of financial resources has an impact on all components of education like toilets, classrooms, teachers, training and scholarships. A study of 12 States found out that all of them required more classrooms ranging from 15% to 75% and also more teachers with some States having only 47% teachers against the required number (Bose, Sardana, & Ghosh, 2017). Without necessary budgetary support this gap will be hard to bridge. Spending on education by State governments has been low with most states allocating less resources than required. Another angle to this is the ever-rising enrolment in private schools. While this is not a bad trend per se, it is a problem in India where high income inequalities exist thereby meaning that poor people cannot afford the relatively better-quality private schools. Therefore, unless State governments increase their spending ratio, government schools will not be attractive making good education a rich-man’s privilege.

More insights about spending on education is obtained when it is analysed from segmented level. From the data available, it is seen that out of the 3.87% expenditure as %GDP in 2013-14, the national government spent 1.63% on elementary education, 0.96% on secondary education, 0.69% on higher education and 0.58% on technical education (GOI, 2014). The minuscule amount spent on university education is in stark contrast to the SDG target for providing work-skills to students, which will enable them to get jobs in future. This also affects the quality of research work and technical knowledge imparted, which has a negative impact on the entrepreneurship environment in the country. One is not surprised when it is reported that India produces a lot of ‘paper-degree’ holders, implying that graduate have degrees but not enough skills, rendering them unemployable.

Though, India has attained high GER at primary and elementary level, it performs poorly at the higher education level with GER of males being only 25.4% and of females being 23.5% in 2015-16 (GOI, 2018). At the disaggregated level, many States lack behind even at the secondary level and their performance worsens as the level of education rises. Enrolment rate per se, is not a true measure of education and therefore, it is necessary to analyse other parameters such as pass-out percentage. Graph 3.2 below shows the pass percentage of students at various levels of education:

**Graph 3.2: Percentage Pass-Out at various levels of Education in India**

Source: Department of School Education and Literacy, 2015-16 (for 10<sup>th</sup> and 12<sup>th</sup>)  
 Department of Higher Education, 2018-19 (for UG, PG and Ph. D)

As seen from the above graph, the pass-out percentages are satisfactory in 10<sup>th</sup> and 12<sup>th</sup> class, but extremely poor at the undergraduate, post-graduate and post doctorate level. This implies that India needs to step-up its efforts to increase the quality of education being imparted. This is further emphasized by reports which show that at the All-India level (rural), only 50.1% boys and 44.1% girls (age group 14-16) can do division (ASER, 2018). Naturally, if the foundation of students is weak, they will not perform at the higher levels resulting in higher drop-out rate or 'Never-Enrolment Rate'.

Another area of gap in education sector with respect to SDG Goal 4 is seen in infrastructure of institutions. There are only 993 Universities, 39,931 Colleges and 10,725 Stand Alone Institutions in India (GOI, 2018-19). With a huge young population looking to get formal degrees, this means increasing the batch size, which affects the Pupil-to-Teacher (PTR) ratio. Some states in India like Uttar Pradesh, Bihar and Jharkhand have a PTR of more than 50 reflecting the shortage of colleges and schools for students. In terms of facilities, it is seen that even though most schools have toilet and drinking water facilities now, maintenance issues like their cleanliness and hygiene exist making them unusable for students.

With respect to inclusion and equity, despite the availability of numerous laws, there exists a lack of consistency between States and Department about how to implement them. For instance, in the case of Children with Disabilities (CWD), many States have yet not implemented the provisions of *Samagra Shiksha Abhiyaan*, which is a national scheme with legal safeguards for CWD. As per some reports, over 28% CWD (age 6-13 years) are out of school in India (UNESCO, 2019). Similarly, gender disparities still exist in society due to which boys are given better education (e.g. private schooling) as against girls (government schooling). Yet another dimension to education are the cross-linked issues of health like early-childhood care and malnutrition. India ranked 102 out of 117 countries in the Global Hunger Index (GHI, 2019), which means a significant proportion of young children do not get adequate nutrition consequently impacting their performance in studies also.

Lastly, many concerns exist at the level of teachers in terms of their numbers and teaching skills. As per the estimates of the Government itself, there was a shortage of more than 900,000 teachers at the end of 2016 (GOI, 2018), even though independent reports place this at a higher value. The number of female teachers per 100 male teachers is only 73 (GOI, 2018-19), which has been found to be one of the reasons for female drop-outs from schools. At the individual State level, problem is not always about shortage but also of surplus teachers, pointing out the poor resource management techniques. Further, in terms of the teaching methods, most universities and colleges still follow the obsolete rote-learning approach, which does not leave room for innovation and creativity. Non-disbursement of salaries to teachers is a major cause of teacher absenteeism.

#### 4. Emerging Trends in Education in India

It has been discussed above that India has made SDG Goal 4 as a national priority and is taking many steps to solve the challenges and gaps in the present system. Most recent among these is the Draft National Education Policy (NEP) proposed by MHRD in 2019, seeking public comments before finalization. In many aspects, this is the first time a new comprehensive policy has been laid out by the government since 1986 when the first NEP was laid out. This policy explicitly mentions aligning the national direction in line with SDG 4 “to bring quality of life to its citizens in a sustainable way, without degrading the environment.” (GOI, 2019, p. 27). NEP, 2019 seeks to address the issues of equity, access, quality and inclusiveness in education sector in India. For instance, to improve Early Childhood Care and Education (ECCE), the policy recommends that besides improving the content and pedagogy, pre-primary education must be made mandatory for the whole country. To improve the performance of students, it recommends changes in the course structure like introducing semester system and choice-based credit system in schools. With regards to the issue of poor infrastructure, NEP 2019 proposes a dynamic solution of bringing small and fragmented schools of different levels into a single complex, which will ease management and allocation of resources. The policy also proposes that teachers should be retained in one school for at least 5 years and must not be allowed to participate in non-teaching works during school hours. Further, new measures are proposed to improve their training and accountability. In the higher education level, NEP 2019 comes out with many proposals relating to accreditation of colleges and universities, establishment of new colleges, creation of dedicated research and innovation funds and better regulation of institutions. Thus, the proposed NEP 2019 can prove to be a boon if its vision is implemented correctly.

In addition to the Draft NEP, 2019, government has taken other measures in the area of education. In Union Budget 2018-19, it proposed to take a holistic approach towards education rather than the earlier differentiated one from pre-nursery to Class 12 i.e. to integrate them under a new programme called “*Samagra Shiksha Abhiyan*” (SSA 2.0) (translated as ‘Holistic Education Campaign’). Further it also subsumed the three schemes of Sarva Shiksha Abhiyan (SSA), *Rashtriya Madhyamik Shiksha Abhiyan* (RMSA) and Teacher Education (TE) into this programme for better implementation. SSA 2.0 promises to bring out new legal provisions related to SDG Goal 4 at national and State level. The Government has also announced its plan to give a boost to higher education through heavy investment of ₹1,00,000 crore in next



four years under the ‘Revitalising Infrastructure and Systems in Education’ (RISE) plan and another ₹10,000 crore to 20 top varsities selected as “Institutions of Eminence.”

## 5. Conclusions

From the above analysis, it is evident that SDG Goal 4 poses a strong challenge for India and unless consistent measures are taken, it will not be possible to achieve them by 2030. There is a strong co-relation between spending on education and the benefits it brings in health sector, economy and improving the quality of life of people. In order to reap these benefits the government needs to urgently increase the financial resources for education schemes and programmes. Linking primary health care with elementary education has proved to improve education of students in Bangladesh and the same model can be studied in context of India. There are lot of disadvantaged people in India for whom daily survival is more important than education. For such people, schools can be used to compensate for the domestic disadvantages, particularly in case of girls. The Draft NEP, 2019 looks promising but it will not prove to be effective unless the co-ordinating agencies like Ministries, State, Departments and Boards are re-structured to talk to each other without the *red tapism* in bureaucracy. India already has the biggest individual identification mechanism in form of Aadhaar. Although it is being used in many places to tackle the problem of student drop-out and teacher absenteeism through biometric attendance, the same must be implemented in the entire country. Another significant set of stakeholders are the migrant workers in the informal economy who are not able to give education to their children due to migration. The government must introduce flexible migration cards and related support system for them so that accessible education is not a struggle for them. Finally, the government must use disaggregated data in place of national data for better analysis of problems at hand and performance of schemes and projects based on segmented categorization like disabled, women, minorities, migrants, etc.

Education is a complex and multi-layered issue and is linked to other subjects such as health, empowerment, financial status and societal biases. SDGs recognize this nuance and thus encourage governments to take a comprehensive approach towards problems. Performance of India is critical for the overall success of SDGs in creating a sustainable, equitable and inclusive world. Using the power of ICT, it can achieve wonders and prove to be a benchmark for the entire world.

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***Transferring Results of Intercultural Communication Research to Business English Classroom: Structure and Register Fluctuation in Business Emails from British, Polish and Spanish Companies***

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**Abstract**

Emails are the most common communication means in the present business world. A broad range of email studies focused on cultural variations in business email writing, but very few approached intercultural business communication in Europe. In one of them, Gómez-Moreno and Skorczynska (2013) described variations concerning the prototypical move structure and register in a corpus of over 100 emails of response to business requests written in English by employees from companies based in the UK, Spain and Poland. The study revealed that the move structure in this type of intercultural communication is more complex than current templates and existing published materials show, and that register variations detected should be transferred to the business English instruction in the European context, which typically uses native speaker writing samples. As the awareness and adaptation to different writing styles in the intercultural business communication within Europe is absent in the published textbooks and related materials, I have proposed a classroom activity, based on authentic email messages taken from the above-mentioned corpus. Students identified the prototypical move structure in examples of British, Spanish and Polish emails and discussed the variations detected. The activity also focused on the language features and the tone used. Business English students can certainly benefit from working with authentic texts, especially in case of both language and cultural awareness raising activities, which can help improve their communication skills for today's globalized world.

Keywords: business, communication, culture, email, register, variation

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## Introduction

This study reports on an application of the research conducted on intercultural business communication in the classroom of business English at the graduate level at the Universitat Politècnica de València in Spain. More specifically, the classroom application focused on the identification of the structure and register fluctuations in business emails from British, Polish and Spanish companies. It is, therefore, shown how the knowledge gained about the variations in this type of emails can be transferred to and used to teach students to spot cultural nuances in business communication in Europe.

The research of business emails has been extensive, especially in the area of intercultural communication and business discourse analysis. A clear trend towards progressive informalisation and heterogeneity of email register has been addressed for the past many years (e.g. Gains, 1999; Pérez-Sabater *et al.*, 2008; Waldvogel, 2007). On the other hand, changes in the levels of formality were also discussed in terms of their interrelation with the communicative context and the participants' roles, conventional and intentional, which may oscillate, and in this way, introduce different registers within the same email (Giménez-Moreno, 2006; 2011a). Regarding the use of English as a lingua franca in business emails, it has been the focus of a broad range of studies. For instance, Giménez (2002) examined emails between an Argentinean subsidiary and its European offices; Nickerson (2002) analysed electronic communication between Dutch and British in a Dutch-owned multinational company; Louhiala-Salminen *et al.*, (2005) focused on email exchanges between Swedish and Finnish members of a merged Swedish-Finnish company; or Carrió-Pastor and Muñíz-Calderón (2013) looked into variations in emails from India and China. Finally, Giménez-Moreno and Skorczynska (2013) analysed register variations in replies to requests written by British, Polish and Spanish employees of travel agencies.

Despite the variations discussed, there seems to exist an agreement that writers tend to use a “semi-formal” co-operative tone of expression in business emails (Gains, 1999; Giménez-Moreno, 2011a). The features of this type of professional neutral register are: predominant informative function; use of shorter sentences, bullet points and conventional abbreviations; open use of direct speech (direct questions) but expressed in formal language; use of modality, mitigation and hedging; explanations carefully avoiding colloquialisms or slang; and finally, avoidance of opinions, personal comments and subjective or emotive language. However, Giménez-Moreno (2006; 2011b) suggests that the professional register includes many subtleties and small variations which mirror the specific communicative context, as well as the roles of the participants and their intentions, like for example in employer-employee communication. In this sense, and on a more general level, the author proposes four macro-registers: family, amicable, social and professional with different tones for each macro-register; informal, neutral and formal. Therefore, the professional register would also oscillate from informal to formal, including the following lexicogrammatical features (see Figure 1).

<b>A</b> <b>(+) INFORMAL/CASUAL</b> <b>(Showing commitment, involvement and closeness)</b>	<b>B</b> <b>(+) FORMAL/RITUAL</b> <b>(Showing deference, neutrality and objectivity)</b>
1. Personal expressions 2. Active verbs/expressions 3. Direct speech 4. Ordinary reporting verbs (e.g. say) 5. Ordinary connectors (e.g. so) 6. General terms/expressions (e.g. man) 7. Emotive/subjective/attitudinal terms (e.g. guess) 8. Phrasal verbs and informal idiomatic expressions 9. Use of contractions, abbreviations and "fast language" 10. Straight statements and direct commands	1. Impersonal expressions 2. Passive verbs/expressions 3. Indirect speech 4. Specific reporting verbs (e.g. mention) 5. More elaborate connectors (e.g. furthermore) 6. Precise terms/expressions (e.g. technician) 7. Neutral/objective terms (e.g. inform) 8. Latin terms and standard formal expressions 9. Detailed and concrete expressions without contractions using nominalization and modifiers 10. Politeness, caution and mitigation markers

Figure 1: Lexico-grammatical features of register variation in professional communication (adapted from Giménez-Moreno, 2010: 302)

An additional feature of business emails is mixing of registers and tones (Giménez-Moreno, 2011b). The professional register may oscillate from a more informal to a more formal tone in business emails, but it is also possible to find features of the social register visible in the presence of personal information about the writer or colleagues, the use of subjective or emotive expressions, as well as in references to health, holidays, sports and leisure. The amicable register can also be identified in the mentions to the common previous history, the expression of spontaneous emotions, complicity and confidentiality, as well as in the use of peculiar terminology and abbreviations.

### Replies to requests

Replies to requests have been less researched than request emails (Zhu, 1997; Kong, 1998), for which thousands of templates have been created in the market to provide support to communicate more effectively in company-to-company exchanges (Sandler & Keefe, 2008). However, as Schaefer (2010) pointed out, replies to requests are often a priority in business writing courses along with apology emails. The study by Giménez-Moreno and Skorczynska (2013), used as a basis for the present report, analysed 111 replies to requests sent by British, Polish and Spanish travel agencies. These replies followed an enquiry (in two formats: formal and informal), asking about a business trip to a main European city in order to carry out team bonding activities. Half of the messages received replied in the informal tone, and the other half in the formal one. Most replies came from the British agencies, followed by the Spanish and the Polish ones. Significant variations were found in the identification and analysis of the message moves. In general terms, the acknowledgment and the promise to submit a proposal for a trip later was notably more frequent in the British and Polish emails. Questions concerning the proposal details, such as the preferred destination, the dates, or the room type, were included in the three types of emails, but the requirements themselves varied according to the nationality. Another feature, that is, the inclusion of a proposal was present mostly in the British emails. Figure 2 shows the percentages of specific moves per type of reply (informal and formal) and the respondent's nationality.

Move	Informal (%)			Formal (%)		
	British	Polish	Spanish	British	Polish	Spanish
Salutation	26	100	100	76	100	100
Thanking	60	55	50	53	20	40
Willingness	60	55	50	65	70	40
Requesting info	42	55	100	47	30	70
Requested info/materials	32	45	0	24	20	0
Additional info about request	28	25	0	35	0	50
Close	53	15	50	53	40	70
Ending	85	95	100	76	70	80
Signature	92	45	100	76	80	80
Complete info about co	53	60	75	53	60	70
Additional co/country info and links to other pages	14	15	0	24	20	0
Attachments	0	15	0	6	20	20

Figure 2: Move variation in informal and formal messages: percentage of messages including moves (source: Giménez-Moreno & Skorczynska, 2013: 90)

As can be seen in Figure 2, the move pattern is similar in all email types, but there are many slight differences. For instance, a more frequent use and a broader range of salutations was found in the Polish and Spanish emails: “Dear Jean”, “Hi Jane”, “Dear Madam” or “Dear Sirs”. Thanking was included in 50-60% of emails regardless of the level of formality, except for the formal Polish emails. Willingness to help was also present in all emails except for the formal Spanish emails. Nearly all of the Spanish emails requested information, but none of them included requested information or materials. The reference to the additional information about the request was also absent in the informal Spanish emails and the formal Polish messages.

Regarding the language features of the formal and informal emails, Figure 3 shows the variations identified.

Register	Distinctive features	British	Polish	Spanish
		%	%	%
Casual/Informal	Personal expressions	75	65	50
	Active verbs/expressions	17	35	---
	Direct speech/Direct questions	35	65	---
	Ordinary reporting verbs (“say”)	---	---	---
	Ordinary connectors (“so”, “but”)	10	15	---
	General terms/expressions (“man”)	39	45	25
	Emotive/subjective/attitudinal expressions	10	45	1
	Phrasal verbs and idiomatic expressions	28	---	---
	Contractions, abbreviations and “fast language”	14	15	---
Formal	Straight statements and direct commands	17	60	25
	Impersonal expressions/“there is”, “there are”	18	20	---
	Passive verbs/expressions	12	---	---
	Indirect speech/Indirect questions	18	30	40
	Specific reporting verbs (“mention”)	12	---	---
	Elaborate connectors (“furthermore”)	12	10	30
	Precise terms/expressions (“technician”)	35	60	40
	Neutral/objective terms (“inform”)	24	20	10
	Latin terms and standard formal expressions	47	60	70
	Detailed and concrete nominalization and modifiers, evaluative adjectives	29	30	30
	Politeness, caution and mitigation markers	47	50	60

Figure 3: Language features in formal and informal emails: distribution by the respondent’s nationality (source: Giménez-Moreno & Skorczynska, 2013: 92)

As can be observed in Figure 3, the broadest range of distinctive language features has been found in the British emails, both formal and informal. The casual form is



also more marked in the Polish emails, where most of the corresponding features were found (e.g. personal expression, active verbs, direct questions, or phrasal verbs and idiomatic expressions). The Spanish informal emails included the most limited number of language features, namely, personal expressions, general terms, straight statements and direct comments. Regarding the formal Polish and Spanish emails, they used most of the characteristic language forms, such as indirect speech and questions, technical words, or Latin terms and standard formal expressions. Finally, the significant presence of politeness, caution and mitigation markers was also noted in the Polish and Spanish emails.

In summary, the British emails included a broader range of features from both ends, formal and informal, which were evenly distributed across the texts. The Polish and Spanish emails showed fewer language features and a stronger dependence on language formula and standards. Finally, the Polish emails fluctuated more explicitly towards the amicable and social registers as a persuasive strategy in the use of phrases such as “So don’t be afraid we will find suitable hotels”, “Have a good day” or “Hi Alison”. Therefore, it can be seen that subtle register variations in the emails studied are notable and meaningfully related not only to the use of English as the first or second language, but also possibly to writing conventions used in the companies from the three countries.

### **Classroom application**

The classroom application of the research reported (Giménez-Moreno & Skorczynska, 2013) was carried out with a group of graduate students completing a course of business English. This particular group of 25 students was truly multicultural representing different European and non-European nationalities. The activity designed aimed to introduce students into intercultural communication in Europe and help them notice variations in the structure, functions and language used in business emails produced by British, Polish and Spanish writers. It consisted in an analysis of sample emails extracted from the corpora used for the research reported. The analysis was preceded by a warm-up debate on cultural differences and similarities. The students talked about their experience in contact with or living in a country with a different national culture. Those with work experience also discussed how they approached workplace situations in multicultural contexts. The final topic to discuss was the impact of culturally motivated misunderstandings in email communication on the company’s performance. This type of introduction served as a suitable preparation for the analysis of sample emails.

The students were given three replies to the request of information for a bond-building business trip with the following instructions:

- The emails that you can read below had been received in reply to a message sent by a British company requesting information about a three-day trip for its employees. The request message was general without specifying the services requested.
- Below you can read a British, a Polish-English and a Spanish-English reply.
- Compare the layout of each message (salutation, close, signature, additional information, etc.), the structure (moves), and the tone (formal/informal).

- What similarities and differences did you find? Can you associate the variations detected to the writer's national culture? Can these variations be attributed to the knowledge of English by Polish and Spanish speakers?  
The British reply can be seen below:

*Dear Mary*

*Thank you for your enquiry.*

*We are happy to send you a quote for your business/leisure trip to Finland.*

*Before quote I would like to ask few questions.*

*How old are the team members going on this trip?*

*Would you be travelling from London?*

*Are you looking for activities that are related to your industry (for example wine testing) or would rather do outdoor activities for purely team building puposes?*

*I would also kindly ask how much you are willing to spend per person for this 3 day trip (Thu-Sun) since that would be significant in order me to plan the itinerary.*

*I am looking forward to hear from you.*

*With kid regards*

*Jane Smith*

*ABC Travel Ltd*

*Tel XXXX*

*Fax XXXX*

*Emal XXXX*

*Please follow us on Facebook*

*<https://XXXXXX>*

*1A XXXX*

*London XXXX*

The following is the Polish-English reply:

*Dear Sirs*

*We have received your letter enquiring about trip for 8-12 members of the management team. Happy Travel will be glad to organize this event for you.*

*I suppose till the end of the week I'll send you first proposal, but before that, I would like to ask you a few details.*

*Does your enquiry consider several destinations or you are planning to go only to Warsaw?*

*There are more men or woman in the group?*

*Would you like me to book Single rooms or double rooms?*

*I would appreciate a prompt reply,*

*Yours sincerely,*

*Anna Smyk*

*Project Manager*

*<http://XXXXXX>*

*Happy Travel Sps z o.o.*

*Ul. XXXX 51*

*XXXX Warszawa*

*Mob. XXXXX*

*Tel. XXXXX*

*Fax. XXXXX*

Finally, the following is a Spanish-English reply:

*Dear Mary,*

*I need some information for the budget:*

- *Do the group need accommodation on the hotel? If yes, how many nights are they going to be staying in Sevilla? (approximately)*

- *Do they need transfers?*

- *Do they need options for activities in Sevilla? Meals?*

*About the one-day seminar, how long is it going to be (4h or 8h)? do they need any media systems?*

*Waiting for news.*

*Regards.*

*Elena Suárez*

*Viajes Sevilla Tours S.L.*

*Phone: XXXXX*

*Fax: XXXXX*

*E-mail: XXXXX*

The students were asked to fill in a table with the information about the layout of the three emails, the moves (or the communicative functions) identified, as well as the tone used. Table 1 includes the summary of the answers provided by the students.

General layout	British email	Polish email	Spanish email
Salutation	<i>Dear Mary</i>	<i>Dear Sirs</i>	<i>Dear Mary</i>
Close	<i>With kind regards</i>	<i>Yours sincerely</i>	<i>Regards</i>
Signature	Name + surname	Name + surname + position	Name + surname
Additional info	Company name Tel/Fax number Email address Facebook address Address	Web page address Address Mobile phone Tel/Fax phone	Company name Registry number Tel/Fax number Email address
Moves			
Thanking	<i>Thank you for your enquiry</i>	<i>H.T. will be glad...</i>	-
Confirming the quote	<i>We are happy to send you a quote.</i>	<i>H.T. will be glad to organize the event for you.</i>	-
Requiring more information	Explicit introduction: <i>Before quote I would like to ask a few questions: age, point of departure, type of activities, cost per person</i>	Explicit introduction: <i>I would like to ask a few questions: destinations, men/women, single/double room, length of seminary</i>	Explicit introduction: <i>I need some information for the budget: accommodation, number of nights, transfers, length of seminar, media systems needed</i>
Closing	<i>I am looking</i>	<i>I would appreciate</i>	<i>Waiting for news</i>

	<i>forward to hearing from you</i>	<i>a prompt reply</i>	
<b>Tone</b>	Informal, but respectful	Formal, but a little bit too direct as compared to the British tone	Informal and direct, lack of politeness as compared to the British tone

Table 1: Students' analysis of the three emails

After filling in the table, the students compared and discussed their answers. They agreed that the tone in the British and Spanish emails was more informal than in the Polish one. However, the informality in the Spanish emails was attributed to the unfamiliarity with this particular register. They also highlighted that the company's web page address in the Polish email suggested looking for more information and not calling the company first. Thanking for the enquiry was explicit in the British email, while there was a confirmation of the enquiry in the Polish email, and this particular move was absent in the Spanish email. The British and Polish emails included the expression of willingness to provide a quote, and again this move was missing in the Spanish email. On the whole, the British and Spanish emails were informal, while the British and Polish emails were more explicit.

## Conclusions

The research results, as is the case of this study, have been successfully transferred to the classroom. The students responded with much interest to the use of corpus-based materials, as they reflected a real-life situation frequently taking place in business communication among European companies. The students acted as researchers and experienced learning by discovering. The identification of the layout, move and tone variations will certainly help them to be more aware not only of the email writing conventions, but also of certain variations that could be attributed to the influence of the national culture and also to the use of English as a foreign language. The main disadvantage of this type of activities is that more classroom time is needed to introduce the students to the research topic and method. These activities may also be challenging conceptually, as students have to understand such concepts as register or move. Transferring research results to the classroom, therefore, can be useful if a realistic approach is adopted in the design and management of classroom work and less sophisticated pieces of research are selected.

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***Study of English Training Model Based on Backward Design Technique:  
IAESTE Thailand as a Case study***

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**Abstract**

The university students need to prepare themselves to be ready as the competent workforce for industry. On-the-job plays an important role in a student's development as it applies the theoretical learning of a student to day-to-day practices in the industry. To enhance students' skills to be stronger and ready as competent workforce for borderless world, communication especially languages is important and it is undeniable that students' development has to do during their stay in university. The International Association for Exchange of Students for Technical Experience (IAESTE) offers international internship which covers 90 countries around the world. English language skills present the most critical barrier for Thai students who would like to join IAESTE's on-the-job training program for technical experience over the last 40 years. Therefore, this research was aimed to study the relationship between the personal data and English testing scores of the student applicants who had joined IAESTE Thailand in 2009 – 2011 and to synthesize and find out an English training model suitable for IAESTE Thailand's student applicants by using backward design technique. Based on 1,477 student applicants in 2009 - 2011 it was found out that most undergraduate students studying engineering, science and technology who got low GPA also failed in English Competency Test. The English teaching experts both Thais and foreigners rated teaching listening skill most important and then speaking skill, reading skill and writing skill but for teaching vocabulary and grammar structures was rated least important. Hence, 36 – 72 hours training model was purposed to prepare the students which include language, multicultural and adaptability competency.

Keywords: Backward Design Technique, Student Center, On-the-Job training

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## Introduction

Language is a cognitive skill which includes productive skills of writing and speaking and receptive skills of reading and writing (Wongsothorn, Hiranburana, and Chinnawongs,2002). English is taught as a second language in Thailand. Thai students are required to learn English with a few hours a week starting from a primary school to a university. It is a compulsory subject in all levels of education. Not only the limitation of English study hours due to the curriculum restriction but also the teaching methodology has been the main problem resulting in Thai students' interest to learn English. Most of Thai students do not prefer to learn English because they find the subject matter boring and the four skills are quite hard for them whose mother tongue is Thai. Although people communicate on a daily basis, they do not understand that causes them not to be able to reach their communication goals. (Hybels & Weaver,1995) When people from different countries interact in order to reach the goal of understanding each other, there are problems found within the group due to variations in the language used by them. Teaching methods are not attractive or engaging for students (Bateman, Hois, Ross, & Tenbrink, 2010). Most of the English teachers in Thailand still use grammar and rote learning methods with their Thai translation while teaching. Besides, students do not have the opportunity to use English in their daily lives, lack of exposure about English language and they do not have any motivation to use English . Moreover, technology support for language learning has never been sufficiently supported such as ITC as well as language laboratories particularly for schools in rural areas or remote areas as well as universities throughout the country. As a result, Thai students' English skills are still very weak (Methitham & Chamcharatsri, 2011) compared with the pother countries in the South East Asian Region. It has become a critical problem for Thai students of Higher Education who would like to apply for the practical training placements under the International Association for the Exchange of Students for Technical Experience: IAESTE A.s.b.l. which consists of 90 member countries. It is an association of national committees representing academic, industrial and student interests. It serves 4000 students, 3000 employers and 100 academic institutions through career focused professional internships abroad, social and intercultural reception programmes and international networking.

The International Association for the Exchange of Students for Technical Experience: IAESTE A.s.b.l was founded in January 1948 at Imperial College, London, on the initiative of the imperial College Vacation Work Committee. It is an Association of National Committee representing Academic, Industrial and Student interests. Each National Office is responsible for administration of the exchange in its own country. IAESTE is a non-political, independent, non-governmental Organization (UNESCO) and maintains consultative relationships with the UN Economic and Social Council (ECOSOC), the United Nation Industrial Development Organization UNIDO) and the International Labor Office (ILO) (IAESTE, 2012). The main objectives of IAESTE are to: provide students in higher education with technical experience relevant to their studies; to offer employers well-qualified and motivated trainees and to be a source of cultural enrichment for trainees and their host communities ( IAESTE Annual Review,2011) Thus, the students who are interested to participate in this organization must have good English skills so as to be able to communicate with their foreign employers and work successfully on the job offered during the internship. Each year, the offers of training are exchange with other Member and Co-operating Institution



select qualified students to meet Employers' requirements as outlined on the training offer. Details of the selected candidates are sent to the Companies for approval. Participation in the IAESTE exchange is open to bona fide students attending courses at Universities, Institutes of Technology and similar Institutions of Higher Education. (IAESTE, 2012)

IAESTE Thailand is one of IAESTE members who manages exchange activities for the students' on-the-job training programs for technical experience between IAESTE members and co-operating institutions comprised of 90 members and co-operating institution from 75 countries and 15 Non-Member countries. English language skills present the most critical barrier for Thai students who would like to join IAESTE's on-the-job training program for technical experience over the last 40 years. Most of these students are lacking a powerful English training program, lack of professional English trainer, and lack of capable counselors to guide them improve their English skills to a level that enables them to compete in the IAESTE standard testing. More than 60% of Thai students who apply fail to pass this test each year. It would be to great benefit for next year's IAESTE Thailand applicants, if there were a variety of English training model available to improve their English skills levels and ready them for IAESTE Thailand's recruitment processes. Therefore, the aim of this research was 1) to propose the most appropriate English training models for IAESTE Thailand based on student center and backward design technique, 2) to study the relationship between the personal data and English testing scores of the student applicants who had joined IAESTE Thailand since 2009-2011 and 3) To synthesize and find out an English training model suitable for IAESTE Thailand's student applicants. Accordingly, based on the variety of student's English skills, IAESTE Thailand is expected to train them to be able to attain its standard, before they can participate in the overseas exchange program. This research will be helpful for IAESTE Thailand's performance, career path development of an English training model based on student center and backward design technique.

### **Research Questions:**

- 1) Is there any relationship between Thai students' personal data and their testing scores?
- 2) Is there the most appropriate English training model for Thai students who would like to participate in IAESTE's on-the-job training program for technique experience different from general English training courses offered by universities ?

### **Hypotheses**

Focused on Backward Design Technique which are helpful for a modern curriculum design could help the research develop two hypotheses:

- 1) Is there some relationship between Thai students' personal data and their testing scores ?
- 2) Is the most appropriate English training model for IAESTE Thailand's applicants different from the students' general English courses?

## Literature Review

This chapter provides a synthesis of the theoretical and empirical literature used in the development of the research model and hypotheses. In the first section, the theoretical background is given on student center. The second section examines backward design technique. The third section examines English teaching in Thailand's context and the fourth section reviews literature, the impacts of student center and backward design technique on English teaching's performance outcomes. A proposed conceptual model and hypotheses are presented in the fifth section.

### *Student Center Teaching*

The term, "student center or learn-centered" describes a concept and a practice in which student and professors learn from one another. It proposes a global shift away from instruction that is fundamentally teacher-centered, at times glibly termed "sage on the stage," focusing instead on learning outcomes. It's not intended to diminish the importance of the instruction side of the classroom experience. Learner-centered teachers articulate what student are expected to learn, design educational experiences to advance their learning, and provide opportunities for them to demonstrate their success in achieving those expectations.

A learner-centered environment grows out of curricular decisions and in-class strategies which encourage students' interaction with the content, with one another, the teacher and the learning process. It encourages students' reflection, dialogue and engagement, and requires a reliable assessment of their content mastery (Rahimi, Ghodrat & Reza, 2012). Conventional wisdom has been that if a faculty teaches well and offers insightful, clear, rigorous, challenging, and even enjoyable lecture, students will learn. Learner-centered pedagogy questions this assumption given differences in how students learn. The emergence of learner-centered instruction arises from the quest to have all students achieve more success in their educational enterprise. Sanner & Wilson (2008) suggests the student's demands to learn are a key success factors for student-centered teaching. Halle, T., et al (2002) stated some teachers may think, their students are not always motivated to maximize their learning. The fact the students bring other motivations to bear on their choice of educational environment presents other complications for a pedagogic strategy based on their preferences. To be effective, a change toward learner-centered teaching may require a re-centering of assessment practices to include more different evaluations of the learning experience.

Alexander and Murphy (2000) highlighted five areas for learner-centered design principles. These areas include knowledge base, motivation and affect, strategic processing or executive control, development and individual differences, and situation for developing an English training model for IAESTE Thailand.

### *Backward Design Technique*

Wiggins and McTighe (2005) offer an effective framework for designing instruction through "Backward Design." The design process seems "backward" in that it starts from the opposite end of the planning process typically used to plan introduction – educator traditionally start by thinking about how to teach content (Schmid, 2008). Backward Design, in contrast, leaves teaching activities until the end, starting with the

learning result expected. Backward Design process is sued here and proceeds in the following three phases:

#### STAGE I: Identify Desired Result

First, learning goals must be established. What should students know, understand and be able to do? How is content prioritized and narrowed down to reflect priorities of the standards and learning expectations (GLCE)? Wiggins and McTighe (2005) provide a useful process for establishing curricular priorities. They suggest three questions that facilitates the design of learning goals and progressively “focus-in” on the most valuable content:

1. What should participants hear, read, view, explore, or otherwise encounter? This knowledge is “worth being familiar with” ?
- 2.What knowledge and skills should participants master? Sharpen choices by considering what is “important to know and do” for students. What facts, concepts, and principles should they know? What process, strategies, and methods should they learn to use?
3. What big ideas and important understanding should participants retain? These choices are the “enduring understandings” that students should remember.

#### STAGE II: Determine Acceptable Evidence

In phase two of backward, educators decide what is acceptable evidence to help gauge students on how to meet the lesson goals? How will one know if one know if students are “getting it”? When planning how to collect this evidence, consider a wide range of assessment methods and directly align assessment to the learning to be gained. Assessment must match learning goals.

#### STAGE III: Plan Learning Experience and Instruction

Finally, after deciding what result are desired and determining the evidence for achievement of those result, start planning how to teach to reach those outcomes. That is, move to designing instructional strategies and students’ learning activities. Devise active and collaborative exercises that encourage students to grapple with new concepts and significant understandings.

Backward design is one other key principle used to develop an English training model for IAESTE Thailand in this research. This technique is appropriate for IAESTE Thailand context, since all applicants are from different universities, study different subject majors and most of them are quite weak in English skills. A good English training model for them must be developed based on student center and backward design technique to satisfy their need to learn and improve their personal English skills level.

### **Methodology**

This research employed a mixed method between documentary research and survey research. This is appropriate for describing the distribution of characteristics or

attributes of interest, explaining a phenomenon of English training needs through investigations of relationships among variables (Rieckmann, 2012); such as applicants' personal data their English skill, and explaining phenomena that have not been studied (Douglas, 1976) necessary for improvement. The unit of analysis of individual level was implemented with all IAESTE Thailand's applicants since 2009 – 2011(1477 participants), descriptive statistic and nonparametric statistic will be used for hypothesis testing. Their personal data will be tested correlations with their tested scores of English skills by IAESTE Thailand. To design training model, 20 experts surveyed by using the backward design technique. These experts were composed of groups of IAESTE Thailand stakeholders; 5 Thai English teachers; 5 non-Thai English teachers, 5 IAESTE Thailand's staff, and 5 Students who had deep experiences with IAESTE Thailand

### Data Analysis

Data analysis consisted principally of two parts: First, testing the relation between personal data English skill levels by descriptive static and chi-square test, Second, data from the backward design technique survey by content analysis, mean, and percentage. The research finding is presented into 3 parts as follows: Part I: Qualitative statistic test results, Part II: Backward survey and Part III: English teaching model for IAESTE Thailand formulation.

**Table 1 Descriptive statistic of personal data**

Personal Data		Frequency	Percent
Sex	Male	725	49.1
	Female	752	50.9
Degree	Bachelor	1328	89.9
	Master	141	9.5
	Doctor	8	.5
University	KMUTNB	315	21.3
	Other government universities	1046	70.8
	Other private universities	116	7.9
Major	Engineering	872	59.0
	Science & Technology	253	17.1
	Architecture	29	2.0
	Art science	146	9.9
	Business Administration	25	1.7
	Others	152	10.3
GPA	Lower than 1.5	374	25.3
	1.51 – 2.50	516	34.9
	2.51 – 3.50	418	28.3
	3.51 – 4.0	169	11.4
English Part1	Test Pass	566	38.3
	Fail	911	61.7
English Part2	Test Pass	424	28.7
	Fail	1053	71.3

Personal Data		Frequency	Percent
Interview	Pass	616	41.7
	Fail	859	58.2
	Missing Value	2	.1
Succession	Pass	205	13.9
	Fail	1272	86.1
Attending Year	2009	570	38.6
	2010	484	32.8
	2011	423	28.6
<b>Total</b>		<b>1477</b>	<b>100.0</b>

Most of them are female 50.9%, studying Bachelor degree 89.9%, studying in other government universities 70.8%, largest number of a major is Engineering 59.0%, GPA 1.51-2.50 about 34.9%, fail in IAESTE Thailand's test part one 61.7%, fail in IAESTE Thailand's test part two 71.3%, fail on interview test 58.2%, un-successful for student exchange 86.1%, and with most of them applying in the year of 2009. Then chi-square test was performed and found that there were significant relationships between sex and test 1 = 0.08, University and Test 1 = 0.26, University and Test 2 = 0.19, University and Test 2= Major and Test 1 = 0.14, Major and Year of Application= 0.21, GPA and Test 1= 0.17, GPA and Test 2 = 0.17, GPA and Interview = 0.10, and GPA and Year of Application = 0.15, which was quite a low relationship. There were 16 pairs of personal data which didn't have any significant relationship. They were Sex and Test 2, Sex and Interview, Sex and Success, Sex and Year of apply, Degree and Test 1, Degree and Test 1, Degree and Test 2, Degree and Interview, Degree and Success, Degree and Year, University and Interview, University and Year of apply, Major and Interview, Major and Success, GPA and Success.

Backward design survey was sent to 20 experts regarding English skills needed for students including listening, speaking, reading, writing, vocabulary and grammar. It was founded that The teaching aids used by a teacher when teaching English course of 36-72 hours should include basic communication skills for living abroad, and any kind of games that encourage creativity and critical thought. Apart from an English training program before their overseas internship, other training that IAESTE Thailand's applicants should be given is an awareness of the empirically verified stages of culture shock is helpful in preparing students for living in a foreign country. Study Thai culture and host country in English version, preparation for abroad show time. Human relations for living abroad. Self-disciplining trains for professional development and training on working in multicultural setting. Each lesson should incorporate some communication practice. Students need to be prepared for intensive English only situations, thus and English only environment is deal. The development of English training model; a practical training should be developed in cooperation with a foreign teacher. Computer programs are particularly helpful in assisting English language acquisition.

English teaching model for IAESTE Thailand formulation using backward design technique; Stage 1- Desired results: Students should be training to be competent to listen, speak, and read English language with fluency, should demonstrate adequate vocabulary in their major, represent themselves and be able to use their English language skills to set up a proper cultural exchange show, and be competent in

cultural adaptation. Stage 2 – Assessment Evidence: Performance tasks should be measured from; 1) Students can listen, speak, and read English fluently after finishing a 72-hour training course from IAESTE; 2) Students demonstrate their use of at least 1,500 vocabulary words after a 72-hour training course from IAESTE; 3) Students can use their skills to set up proper cultural exchange show. Stage 3 – Learning Plan; Learning Activities; 1) IAESTE English training camp, 2) English environment only activities; 3) Small group mentoring.

## **Conclusion and Discussions**

Most of the applicants were undergraduate students from different universities taking engineering, science and technology with the GPA of 1.51 – 2.50. Their English skill were so poor that IAESTE Thailand rejected them. Most experts rated listening skill most important. The teacher should be aware of the distinct phonetic difference between Thai and English. Teacher aids such as VDO clip, movies, TV, radio or songs, should be used to assist the students' English language acquisition. Speaking skill was secondly rated important. Therefore, a qualified teacher should have TEFL, TESOL, and ECLTA, mother tongue English university degree and experience in teaching EFL. The classroom circumstance should be arranged for facilitating Thai students to engage in conversation activities. Thai translation and dictionaries must be avoided. The reading skill was rated also most important. Teaching students to have effective reading skill dictionaries should be avoided. The focus must be put on reading strategies practices. Most experts also rated writing skill most important too. A qualified teacher should have a foundation of grammatical knowledge and punctuation skill, experience in academic writing, degree in English from a western institution, linguistic ESL, TEFL, TESOL, EFL and literacy degree.

Teaching vocabulary and grammar structures were rated least important. Students should have a comfortable place to sit to work in groups and pairs. Teachers should understand the grammatical differences between Thai and English, pay attention to students' feedbacks and comfortable to adjust teaching activities to enable students to enjoy their grammar study. The teaching aids a teacher should use when teaching an English course 36 – 72 hours are basic communication skills for living abroad and any kind of games that can encourage creative and critical thought. Students should also be given awareness of the empirically verified stages of culture shock. Adopting the backward design was useful to identify an endure understanding the need of English skills to enhance Thai students to be more efficient in English communication in order to be able to be a competent workforce for borderless world (Di Masi & Milani, 2016).

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## ***A Voice E-book Reading System Designed for the Visually Impaired People***

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### **Abstract**

No matter in life, study, or at work, reading is one of the major sources to obtain information. However, traditional books are mostly printed on paper. The books are not suitable for visually impaired persons to read. Though such a situation can be improved by Optical Character Recognition (OCR) technology. However, the quantity or timeliness of such resources exhibits a big gap versus that of normal sources of information for the general public. While E-books have become increasingly popular, due to the lack of consideration of the special needs of the visually impaired, as well as appropriate reading systems, the visually impaired still face many difficulties in E-book reading. In this project, we proposed a voice reading system for the visually impaired. The system provides an accessible E-book reading environment with content parsing and speech synthesis technologies. Additionally, an accessible E-book reader App is also developed with friendly interface designs for visually impaired persons. This system supports the common-used E-book format, offers a better, faster, and more convenient E-book reading environment for the visually impaired, and improves the situations of insufficient amount and poor timeliness. This improved E-book reading system for the visually impaired people would help the visually impaired people in E-learning and information access.

Keywords: E-learning, Assistive Technology, Visually Impaired.

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## Introduction

One indicator to evaluate the degree of social civilization and evolution is through the barrier-free living space and the supply of appropriate and adequate assistive devices for the disabled and the elderly. There are several assistive devices for the living and education designed for the visually impaired (Hersh & Johnson, 2008; Sivan & Darsan, 2016). The assistive devices are usually in high prices due to a small market scale and lack of product variety. Many demands of the visually impaired cannot be met. Thus, it is the responsibility of a modern society that emphasizes equality and sharing to develop assistive devices for the visually impaired, to solve their problems, and to enhance their life quality and social competitiveness.

No matter in life, study, or at work, reading is one of the major sources to obtain information. However, traditional books are mostly printed on paper. The books are not suitable for visually impaired persons to read. Due to their visual impairment. Though such a situation can be improved by Optical Character Recognition (OCR) technology (Budelli, 2010). However, the quantity or timeliness of such resources exhibits a big gap versus that of normal sources of information for the general public. While E-books have become increasingly popular, due to the lack of consideration of the special needs of the visually impaired, as well as appropriate reading systems, the visually impaired still face many difficulties in E-book reading. They sometimes even fail to completely operate the E-book reading systems or read the full content. Unfortunately, the reading problems of the visually impaired have not been improved along with the development of the E-books.

The survey made by the World Blind Union reported that, in 2011, the published books are converted to be suitable for the visually impaired to read account for less than 5% (World Blind Union, 2017). It leads to unequal opportunities for the visually impaired. Thus, we can clearly see that books for the blind are far from enough.

The root cause of the insufficiency and poor timeliness of books for the visually impaired lies in that the current books for the blind are prepared through manual reproduction based on printed books. As there are many steps, it takes a long time to prepare. That is why the quantity and timeliness cannot be met. Because the design of the user interface cannot satisfy the need of the visually impaired, the difficulty in reading still exists. If the content parsing and conversion technologies of E-books can be further developed to improve the automation degree, the reliance on manual work can be reduced, then books for the blind can be developed along with E-books. The cost and time to produce books for the blind can be effectively reduced. The existing shortcomings of the preparation of books of the blind will be overcome. The use of an accessible user interface for the visually impaired is helpful. Additionally, as The Marrakesh Treaty (World Blind Union, 2018) has been passed, which promote the exposure of the visually impaired to printing materials, the appropriateness and legality of converting E-books directly to books for the blind have been secured. Through the format conversion, the problem of quantity and timeliness of books for the blind can be solved.

In this paper, we designed a system B-Reader, an E-book reading system for the visually impaired. This system supports the common-used E-book format, offers a

better, faster, and more convenient E-book reading environment for the visually impaired, and improves the situations of insufficient amount and poor timeliness. B-Reader is made up of a cloud database and client App. The client App of B-Reader uses a portable smartphone or tablet as its development and operation platform, making it convenient for the visually impaired to carry without any limit of time or space. To allow the visually impaired to operate independently, we considered Web Content Accessibility guidelines (WCAG 2.0) (W3C, 2017) and Universal Design (Wikipedia, 2019), followed the basic design principles of being simple, intuitive, user-friendly, and consistent, set up an operational model and user interface suitable for the visually impaired. B-Reader adopts Text-to-Speech (TTS) technology to convert text into speech, and provides guiding messages in operation. The B-Reader cloud database integrates the E-books of external databases for the blind, parses the text content from the E-books, and uses an automatic format conversion to replace manual reproduction, thus reducing the manpower and time to produce books for the visually impaired and enhancing the quantity and timeliness of such books.

### The B-Reader System

B-Reader is made up of client App and a cloud database, as shown in Fig. 1. The system integrates existing book resources for the blind. Through content parsing technology, E-books are automatically converted to the format accessible for the visually impaired. The production of books for the blind has been upgraded from manual reproduction to the extension of the E-book, so that books for the visually impaired can be developed along with the E-book. The insufficiency in amount and poor timeliness of books for the blind can be solved. It also offers an accessible user interface with voice feedback, boosts sufficient reading aids, and establishes an accessible reading environment suitable for the visually impaired.



Figure 1: The architecture of the B-Reader system.

B-Reader's client App runs on handheld smart devices, for example mobile phone or tablet. In order to meet the operating habits and needs of the visually impaired, we not only follow the concept of universal design and the principle of WCAG 2.0 in the design of the user interface, but also properly define the system functions and simplify

the type of gestures. For example, only some simple and basic gestures are used, such as swiping up, down, left, and right, tapping, and long press. In addition, we unified the definition of all gestures, making it possible that a gesture can have same control sense, even in different pages. Voice feedback is also synchronized with the gestures. The results of the operation are automatically spoken, aside from providing operational guides.

In order to realize the reading function of the client App, we built several functional modules on the B-Reader client App, including the information transmission and reception (ITR) module, the audio processing and recording (APR) module, the information integration and display (IID) module, the navigation indexing (NI) module, the annotation setting (AS) module, as well as the gesture recognition (GR) module. The ITR module is responsible for sending out a user's query request and resolving the book data received from the cloud database according to the pre-defined protocol. It then restores the data into unified data format used in the B-Reader's internal system, establishes the local database, and provides follow-up data display and playback use. The ITR module is responsible for the output of the book data and for selecting appropriate modules and devices according to the required output format. If it is a synthetic voice, then after conversion by the voice synthesis module it is played through the audio device, while text data would be displayed through the screen. It can also use multiple modes at the same time to achieve the effect that the voice and text can be displayed synchronously. The APR module is mainly to achieve a simple recording function. It is used to record some extra messages, such as notes on book contents and key tips. The NI module is in charge of parsing the architectural level of the book content and establishing the index database of paragraphs, chapters, sections, pages, graphs, tables, and so on. At the same time, a navigation index list and index address query are provided, thus helping to achieve the functions of content searching, directly jumping to any point, and bookmark setting. The AS module records the label position within books, such as start position, end position, and section length. It provides an annotation list and annotation query and helps to achieve the annotation function. The NI module and the AS module can be applied to both text and audio data. The GR module receives and identifies a user's gestures and triggers and manipulates the process of each reading function.

The B-Reader cloud database connects the existing external databases of books for the blind. It is used to inquire the book information, download the book files, and perform content parsing as well as format conversion. In order to construct the B-Reader cloud database, we have respectively developed the book information inquiry (BII) module, the book data compilation (BDC) module, the book data Archiving (BDA) module and book content parsing and capture (BCPC) module to achieve the scheduled functions of the cloud database. The BII module is responsible for connecting the external databases and conducting remote queries to obtain the information about books, such as title, author, and other general information, as well as type, format, and other conversion information. The information is useful for follow-up access, download, and conversion of book data. The BDC module downloads the books in the external database in accordance with the query results. According to the type, format, and other conversion information, the module decides upon the processing strategies, such as transferring format, capturing text, capturing graphics, or directly archiving, to aggregate different sources of book data into a unified data category. The BDC module also retains the structure of the original book and presenting it as the

pre-defined format, so as to make it convenient for the B-Reader cloud database and the client App to exchange and transfer book data. In order to facilitate data transfer, the BDA module follows the pre-defined protocol to archive the data to be transmitted. Because the book data may be in plain text format, which can be easily copied, it must be encrypted to protect the copyright before the archiving. The BCPC module is one of the most important function modules in the B-Reader cloud database. The BCPC module is responsible for parsing the original E-books and capturing the text content and structure information in order to achieve the goal of automatically generating accessible E-books for the visually impaired. The cloud database is the important core of the B-Reader system as it integrates external resources, parses E-book content, and enhances the automation degree of the production of accessible books for the blind. Under the operation of the cloud database, E-books in different formats are all converted into data of a unified category. The client App only needs to access and process a single data category, without concern for the original format and details of the book. Hence, it can be dedicated to providing users with more convenient reading services and functions.

## **Conclusion**

In this paper, we proposed the B-Reader system, which is an assistive system for the visually impaired in reading. The B-Reader system provides book inquiries, reading, and several assistive functions. The B-Reader's client App runs on a smartphone or tablet computer. It is operated by intuitive gestures, while giving feedback through the synthetic voice. In addition, the cloud database connects the external book databases, obtains and collects the book resources, automatically parses the book content, transfers the format, and supports the realization of the main functions of the B-Reader system.

After using the B-Reader system, the reading types of the visually impaired will be greatly changed, due to its fairly high mobility and convenience. Moreover, the proposed B-Reader system properly resolves various reading problems, such as a lack of supply of books for the blind, slow production, and a lack of an appropriate E-book reading system that the visually impaired faced in the past.

## **Acknowledgment**

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## ***Mapping the Convergence of Communication Disciplines: A Conceptual Study***

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### **Abstract**

A positive reputation of an organization is needed in order to ensure the organization sustainability. Therefore, communication with internal and external stakeholders become important. The main objective of this paper is to visualize how the concept and practice of organization-communication, corporate-communication and public relations are combined in the process of organization reputation development. Focus group discussion were used to collect data. The participants of the focus group discussion were professionals in communications, upper and middle management, who are member of Indonesia Public Relations Association, and communication academics, who are member of Indonesia Communication Higher Education Association. Result of the study shows that those three concepts are applied together and complement each other in the process of organization reputation development. First step, in the development of internal reputation, the implementation of organization communication concept plays a significant role. Second step, in the external communication process, the concept of public relations played more dominant role. Third step, combining those two processes where communication strategy and its practical execution needed, corporate communication concept played more dominant role. Analyzing these steps, it can be understood that there is a convergence of the three concepts in the process of reputation development. Based on this result, academic in communication discipline should be aware and go beyond in order to prevent continuous misunderstanding across boundaries.

**Keywords:** communication discipline, corporate communication, organizational communication, public relations, reputation

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## Introduction

Business competitions are becoming more and more critical in line with the development of some products and services which causing positive impacts to company strategic communication. Such positive impacts among others are the presence of creativity variable on the concepts development and the implementation of communication strategy that considers the effectivity of its objective. The conceptual and implementation creativity are supported by the development of communication and information technology. In this study, the terminology used is integrated communication.

The previous study concerning integrated communication was conducted among other by Tosun (2008), stated that there must be synergic interaction between corporate Public Relations with point of purchase communications, because this condition will create a maximum efficiency within the system. Meanwhile, Spence and Essoussi (2010) studied on Small Medium Enterprise (SME) brand building and management stressed in his study that integrated communication strategy is very needed to improve and to become creative approach in brand strategy for its development and sustainability. Another study conducted by Christensen, Firait and Comelissen (2009) stated that is needed adaptation between ideal thinks concerning integrated communications with the integration as conducted by the organization and its communications.

Several previous study showed the integrated communication within organization and products by considering the precise choice of strategy and implementation for gaining maximum efficiency. Literaturely, the similar study can't be found in Indonesia. However, it was found some evaluative activities done by companies or its agencies concerning program implementation. Such factual conditions support the need of study to provide Indonesian perspective contribution on integrated communication implementation.

In its development, the integrated communication implementation to become debate. The ultimate debate came from the managerial level relates to effectivity and efficiency of this model. Some opinions state that to communicate products or services must use integrated communication to enable gaining the objective of maximum communication. Meanwhile, other opinion stated that it is not always using the integrated communication because each communication can use any method.

Based on this unfinished debate, the main objective of this literature study is to visualize how the concept and practice of organization-communication, corporate-communication and public relations are combined in the business process to achieve its goals.

## Strategic Management

Managing company internal activities is a part of modern executive responsibility. In such relations, a modern executive must response the presence challenges within external company, both its surroundings or faraway. Its surroundings includes competitors, suppliers, and limited resources, government and its regulations and customers with many changeable desire. The faraway external environment consists



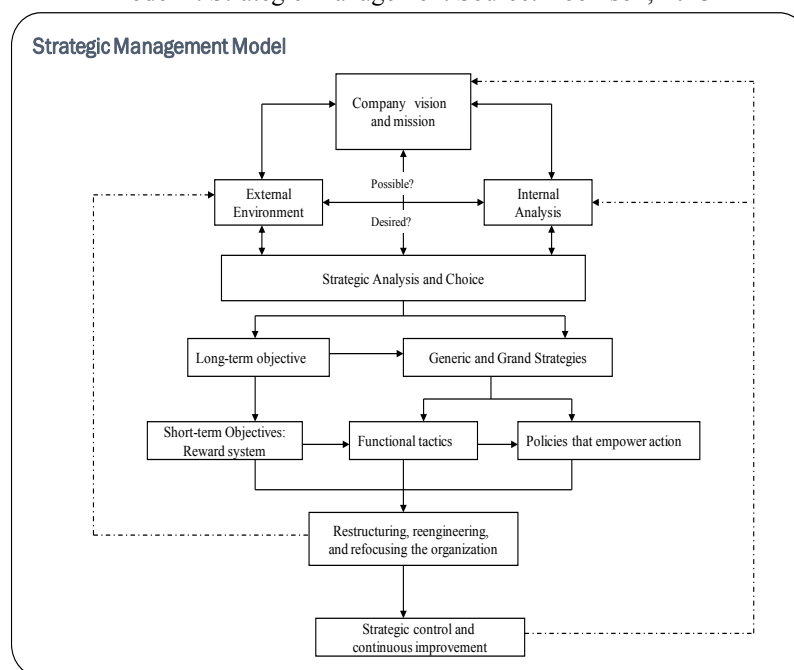
of condition of economy, social, politics and technological development which all must be anticipated, monitored, assessed, and to be included in the executive decisions. To handle effectively some factors that influence the development and profitability of company, the executive applies the management process which is considered to achieve an optimum position of company within competitive environment. To reach the profitability, the company needs to make perfect its process in responding external environment challenges. In this context, the most meaningful and needs attention within the management process is whenever 'the long-period planning, programming, budgeting, and business policy' are integrated by improving focus on environmental forecasting and external consideration within the formulation and implementation of planning. This holistic approach is known as strategic management.

A strategic management is defined as the whole decisions and actions that results formulation and implementation of planning which is designed to achieve the objective of company/ business/ organization. Such planning consists of nine important tasks:

1. Formulating company mission includes its goal, philosophy, and objectives.
2. Conducting analysis that reflects internal condition and company capability.
3. Conducting assessment of company external environment includes competitive and general contextual factors.
4. Analysing company choices by determining its resources with external environment.
5. Identifying the best choice by evaluating every option related to company missions.
6. Choosing a long-term objective apparatus and whole strategy that results to the best choice.
7. Developing annual objective and short-term strategy compatible to long-term objective and whole strategy has been chosen.
8. Implementing strategic choice by allocating budget and resources in which intended to tasks, human, structure, technology, and wages system.
9. Evaluating strategic process achievement as an input to make future decisions.

Pearce and Robinson (2013) visualized the process of strategic management formulation as shown in the following model.

Model 1. Strategic Management Source: Robinson, 2013



Strategic management is the whole decisions and actions that results formulation and implementation of planning which is designed to achieve the objective of company. Considering that this strategy relates to long-term decision, forward-orientation, and involving huge amount of resources, it must be involvement of top management. With this in mind, strategic management is a three-step process involving company, business, and functional designers. Strategic management model has been discussed to become structural foundation to understand and to integrate all ultimate phases of the formulation and strategic implementations. Strategic management process is centred at the trust that company mission can be achieved through systematic and comprehensive assessment toward internal capability and external environment. To define the company mission is a difficult task within strategic management. Principal value of mission-statement is specification of the final objective of the company. Such mission-statement will provide all managers toward a direction. This mission consolidates value and strengthening company commitment toward a responsible action.

Based on this unfinished debate, the main objective of this literature study is to visualize how the concept and practice of organization-communication, corporate-communication and public relations are combined in the process of organization strategic management.

### Organizational Communication

Goldhaber (1993) defined organization communication as process of creating and exchanging messages within interdependent relationship-network to overcome the environmental uncertainty. Organization communication itself is delivery of information and knowledge among members of organization with the aim of gaining efficiency and effectivity of organization. In principle, the most virtual character of organization communication is the concept of relation. Goldhaber (1979) defined organization as 'an interdependent relation network'. In which anything is interdependent, it means that such thing is influenced and to influence each other.

Pattern and character of relationship within organization can be determined by the duty and role determined to its duty includes the important role of manager. Kartikawangi (2013) described that in the perspective of internal company, the manager plays an vital role in communication. As an interpersonal contact, to become leader that makes effort a good working atmosphere and motivates and develop his sub-ordinates, as information processor, as disseminator that disseminate facts and valuable information to his sub-ordinates, as a decision maker, and as entrepreneur that design and commence changes within organization.

Kahn (1990) defined employee engagement is an empowerment of organization members toward their working-role within engagement, people use and express themselves physically, cognitively, emotionally, and mentally during their performance. Meanwhile Aon Hewitt (2009) defined employee engagement as an instrument to measure emotional commitment and workers intellectuality to gain the organization success. According to Hewitt, the engaged workers will contribute organization through their best performance and tend to talk positive about their organization, defend to maintain working within organization and assist organization by working effectively every day. Employee engagement is influenced by engagement driver among others are company brand, leadership, performance, the work, the basic needs, and company practices. Employee engagement relates significantly with the productivity, profitability, worker's retency, safety, and customer satisfaction (Buckingham and Coffman, 1999).

A key to reach employee engagement is the presence of internal communication and the presence of organization with effective communication to its workers will have a better engagement level (Hayase 2002). Communication challenge is possible to occur within organization, particularly to individu which is given a wider chance within organization, he creates greater conflicts among members, between members and manager within the organization. Such problem can't merely be solved by managerial activity, but needs communication skills to connect individu as organization member. The workers commitment which is caused by internal communication is 'how far an individu to pay full attention and integrate within his own role' (Saks, 2006; 2019). According to Gallup (2020) an internal communication increase some important foundation for organization includes productivity and profitability. In this regards, communication plays four main functions within group or organization, i.e. supervision, motivation, emotional visualization, and information. Communication acts to handle members' behaviour in several ways. Each organization has authority hierarchy and formal guidance line that must be obeyed by the workers. If the workers are ordered to communicate every complaint relates to his job to his direct superior and do the job according to his job-description and in accordance with company policy, it means that communication within such organization has played its control function.

## **Public Relations**

The strategic public relations, which is commonly known as the Excellence Model of Public Relations was introduced by James F. Grunig on 1992. Environment's crises and turbulence push organizations toward communication excellence. Everything the organizations do is related to relations with outside world. Thus Grunig was given a special grant by the International Association of Business Communication (IABC)

Foundation for a three-nation study of public relations. The PR Excellence study was intended to provide managers and practitioners of public relations with critical information to their own professional growth. The term PR Excellence and Communication Excellence were used interchangeably in the Excellence Study. *“Communication excellence is a powerful idea of sweeping scope that applies to all organizations, large and small, that need to communicate effectively with publics on whom the organizations’ survival and growth depends.”* In fact, *“communication excellence represents an ideal or perfect state that no organization can reasonably expect to achieve fully.”* (Dozier & Broom, 1995). In the continuing environment’s changes, there was a growing demand for having consistently high standards of operating system and procedure, particularly in environmental matters and local community’s life quality. The call for strategic public relations, professionals changed the way to conceive the nature public relations. PRSA (Public Relations Society of America) adopted the new concept of public relations. The old definition of 1982 was then replaced by a new definition which was formulated in 2012. As a reminder, these definitions are presented as follows:

- *PRSA (2012): Public relations is a strategic communication process that builds mutually beneficial relationships between organizations and their publics.*
- *PRSA (1982): Public relations helps an organization and its publics adapt mutually to each other.*
- *Cutlip, Center, Broom (1994): Public relations is the management function that establishes and maintains mutually beneficial relationships between an organization and the publics on whom its success or failure depends.*

The third definition was presented by Scott M. Cutlip, Allen H. Center, and Glen M. Broom in *Effective Public Relations*, which may be the most famous public relations education textbook. The definition by PRSA (2012) is simple and straightforward. It focuses on the basic concept of public relations as one that is *strategic in nature* and emphasizes the *‘mutually beneficial relationships’*. The (strategic communication) *‘process’* indicates that the communication phenomenon is ongoing, ever changing, and continuous. *‘Relationships’* deals with public relations role in helping to bring together organizations with their stakeholders. The term *‘publics’* refers to various social groups who have special interest in the organization’s affairs. *‘Stakeholders’* are various interest groups which may influence and be influenced by the organization’s decisions. Public relations is also a management function which encompasses the following:

- Anticipating, analyzing and interpreting public opinion, attitudes, and issues that might impact the operations and plans of the org;
- Counseling management at all levels in the organization related to policy decisions, courses of action and communication, taking into account the organization’s social or citizenship responsibilities;
- Researching, conducting, and evaluating, on a continuing basis, programs of action and com to achieve the informed public understanding of organization’s success in achieving goals through various relations programs (marketing, financial, employee, community or government relations and other programs);
- Planning and implementing the organization’s efforts to influence or change public policy. Setting objectives, planning budgeting, recruiting, and training staff, developing necessary facilities.

Public relations can render strategic contributions if the competence of the public relations officer is worth belonging to corporate team of strategic management. Or put differently public relations becomes an integral part of the corporate strategy. Moreover, public relations itself has to be managed strategically. Or as Grunig (2006) has put the matter aptly:

*We show that public relations must be managed strategically before it contributes to organizational effectiveness. Therefore, we conclude that strategic management of public relations is the key characteristic of excellent public relations at the micro or programmatic level of public relations. ... Strategic management balances these internal activities with strategies for dealing with external factors.*

Being part of the strategic management team is the most critical characteristics of the 'Excellence PR Model'. To exercise the Excellence PR Model' public relations office had to be empowered in order to gain the core knowledge, shared expectations, and participative culture of their staff members. Excellence public relations model consists of three component: Firstly, 'core knowledge' which concerns with professionalism in communication; secondly, 'shared expectations' which means there are shared expectations about communication between the top communicators and the senior managers in the organization; thirdly, corporate culture which means shared values which guide and motivate all organizational members to achieve corporate goals. Both 'core knowledge' and 'shared expectations' are embedded in the corporate culture. The nature of Excellence of Public Relations Model was described by Grunig (2009) on his key note speech in Jakarta as follows:

- *It [Excellence public relations] is essentially a communication process between an organization and its publics*
- *A profession based on scientific knowledge;*
- *A management function rather than communication techniques;*
- *A counseling function rather than publicity matters.*

Excellent companies successfully develop strong cultures which identity (and pride) to all organizational members who are able to communicate effectively to internal as well as external stakeholders which results in favorable images among the different groups of stakeholders. Having investigated many effective companies, Fombrun (1996) draws the following two conclusions: *In companies where reputation is valued, managers take great pains to build, sustain, and defend that reputation by following practices that (1) shape a unique identity and (2) project a coherent and consistent set of images to the publics.*

### **Corporate Communications**

Corporate communication is essentially a strategic communication concept. It is developed to gain a competitive advantage for corporate survival. Strategic communication can be defined as "communication aligned with the company's overall strategy, [intended] to enhance to strategic positioning." (Argenti, 2013). Corporate communication is described as a management function that offers a framework of the effective coordination of all internal and external communication with the overall purpose of establishing and maintaining favorable reputations with stakeholder groups upon which the organization is dependent. It is essentially an

integrated approach to managing communication. Unlike specialized frame of reference, corporate communication goes beyond the specialties of individual communication practitioners (branding, media relations, investor relations, public affairs, internal communication, etc.) and crosses these specialized boundaries to harness *the strategic interests of the organization at large*. Corporate communication indicates an idea that the sustainability and success of accompany depends on how it is *viewed by key stakeholders*, and *communication is a critical part of building, maintaining, and protecting such reputation*. As a reminder, it seems worth mentioning that corporate communication unifies or integrates (through identity, image, and strategy) three main forms of communication, namely management communication, organizational communication, and marketing communication. (Van Riel, 2000) *Management communication* facilitates the accomplishment of work through other people. Thus, management is only possible with the consent of the managed.” Communication is vitally necessary to an organization, because it does not only transmit authority information, but also to achieve cooperation. Practically management communication concerns with the following matters:

- Developing a shared vision of the company within the organization;
- Establishing and maintaining trust in the organizational leadership;
- Initiating and managing the change process; and
- Empowering and motivating employees.

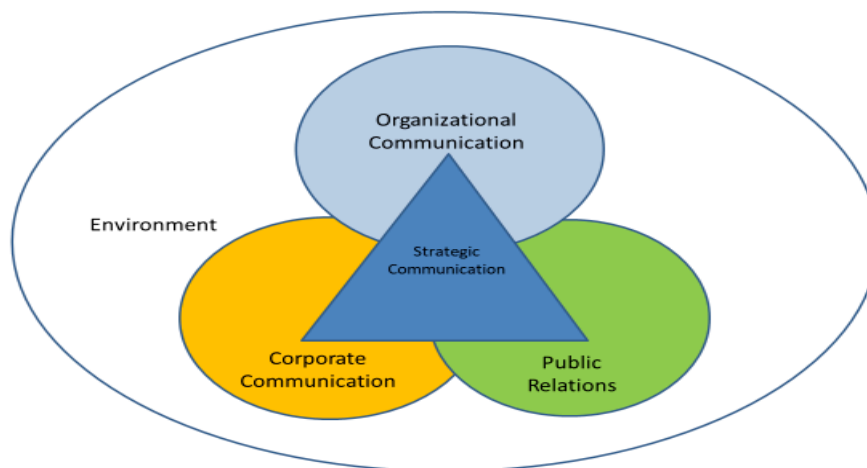
Corporate communication facilitates organization to accomplish responsibilities for taking initiatives in minimizing discrepancies between the desired identity and the desired image---in the framework of strategy, image and identity; establishing profile of the company behind the product or service brand; identifying communication strategy which has to be formulated and executed to fit the company’s overall strategy. The following two definitions are among the most frequently referred to by researches: “*By corporate communication we mean the corporate’s voice and the images it projects of itself on a world stage populated by its various audiences or we refer to as its constituencies.*” (Argenti, 2003). While Van Riel (2000) stated “*Corporate communication is an instrument of management by means of which all consciously used forms of internal and external communication are harmonized as effectively and efficiently as possible, so as to create a favorable basis for relationships with groups upon which the company is dependent.*”

Corporate communication is closely linked to the company’s strategy. It is a totally integrated corporate communication function or a unified corporate communication function. It deals particularly with creating and enhancing corporate’s reputation because reputation is essentially an antinomy of crisis. Good reputation leads to corporate credibility because it earns investor confidence, builds stakeholder loyalty, secures talented employees, gains market leadership, and creates business growth. In other words, the corporate reputation is a powerful source of credibility because it builds relations with all the company’s stakeholders based on product and service quality, financial performance, social responsibility, favorable workplace environment, and vision and leadership. The strong culture through which the reputation is developed allows consistent communication practice in the framework of ideal managerial climate with all groups of stakeholders—internal as well as external stakeholders. Corporate communication includes five components which are as follows: supportiveness, trust, openness, participative decision making, and high-performance goals. Being communicated through the framework, the corporate image

is strongly cultivated among all stakeholders. More specifically the corporate image is trustworthy for the employees, credible among financial investors, reliable among customers, and responsible among community members. In other words, the corporate image is saved from the corporate conspiracy of silence, because the internal stakeholders share common values, and the external stakeholders get consistent messages about the image and reputation of the company from interpersonal communication (with employees), marketing communication, and external communication.

Based on the conceptual description of organizational communication, public relations and corporate communication and its role in strategic communication, a map of the convergence of the three can be drawn as shown in Model 2. Map of Communication Discipline Convergence

Model 2. Map of Communication Discipline Convergence



## Conclusion

Organizational communication explains the interaction among employee and employer in organization. Internal communication is important in building internal reputation through employee engagement. Public relations work closely with management in identifying, building and nurturing relationships between the company and various publics by promoting organization's reputation through highly visible channels, using reporters and editors to communicate about your employer based on information you provide. Corporate communications encompass all communication activities that an organization undertakes, both within and outside the organization. Internally, help management build bridges between departments so that communication flows smoothly. Externally, help management preparing information and engage with external stakeholders.

Three concepts are applied together and complement each other in the process of organization reputation development. First step, in the development of internal reputation, the implementation of organization communication concept plays a significant role. Second step, in the external communication process, the concept of public relations played more dominant role. Third step, combining those two processes where communication strategy and its practical execution needed, corporate

communication concept played more dominant role. it can be understood that there is a convergence of the three concepts in the process of reputation development. Based on this result, academic in communication discipline should be aware and go beyond in order to prevent continuous misunderstanding across boundaries.



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### ***Comparing Indigenous and Non-Indigenous Drawings: A Lesson Learnt***

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#### **Abstract**

The article examines the language in indigenous students in the bilingual schools of the indigenous communities, through the graphic expression of drawing technique. The study sets out to visualize the relationship(s) between the language children used and their representations of the environment in which they live. The total participant sample was two hundred and twenty-five primary school students. The objective is to see whether there is any relationship between the language used and the conception of the children in their environment. The type of methodology used was qualitative, following Wimmer's proposal, with twelve categories emerging, depending on the type and use of the language. The findings indicate that the choice and characteristics of the elements chosen by children are related to the spontaneous and determined use of a language. In conclusion, it can be affirmed that with the sample obtained and the methodological design used, a greater use of the Castilian language is detected in these indigenous children when they want to show their life and their environment. On the other hand, children who prioritize the indigenous language tend to project more defined elements and use larger dimensions (larger size) than the elements related to the Kichwa culture; In spite of this, it can be concluded that the use of one or other language does not reflect a departure from the values, organization or cultural elements of these indigenous communities.

Keywords: community schools; Saraguro culture; indigenous language.

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## Introduction

This article shows the extent of the use of the Kichwa language at early ages through the graphic representation by a sample of indigenous pupils between 5 and 7 years old. The studies presented indicate that the samples tend to be made up of more adult populations, ten years old and older (Lopez and Garcia, 2009), which means that this study already represents a step forward in this regard. It is important to take note of the fact that studying only older age groups up to now has made it impossible to analyse the use of language in ages at which it is a key element in the processes of the revitalisation of indigenous languages and as a cultural symbol. This article sets out to provide knowledge concerning the first stages of children's schooling through the analysis of their drawings and the identitarian relation they bear to the kichwa language, thus significantly contributing to the existing literature on the subject.

### *Analysis of the drawings: literary contributions*

Graphic language is one of the ways in which very young children most fluently give expression to complex concepts. According to the classification formulated by Ives and Gardner (1984), it is from the age of 7 onwards that the stage of evolutive attachment to cultural influences begins, and they can be seen to manipulate models intrinsic to their culture. In a pedagogical setting, graphic symbolisation is relegated to a play-related function; however, drawing allows representations of great interest (Maeso, 2008). Wimmer, (2014) analyses the colours and shapes used by pupils of different ages, identifying a significant connection with present emotional states. Chacón and Morales (2015), for their part, found that 4-year-olds recreated in their drawings fantastic environments and effortlessly accessed the *collective imagination*. Benavides (2006) links correlates the drawings of children between 4 and 12 to the family and *its real and covert structure*, and finds that children express more elements than they would verbally. Aguilar, Mercon and Silva (2016), state that children, when drawing, articulate the cognitive, cultural, political and ecological phases. Taking a different approach, Maeso (2008) explores 7-year-old children's identification with role models, concluding that children identify more with television characters than with members of their own families. Leal (2010) shows the relevance relational and moral aspects have for young children, the relevance of people, actions and objects.

Moragón and Martinez (2016) state that drawing can prompt promote understanding of children's play with the aim of showing alternatives to the dominant models of physical culture imposed on them since early childhood. Colombres (2004) cites a study of the indigenous communities of Paraguay, where the children who drew the shapes in which they thought of themselves and their community viewed the family differently from the way in which their indigenous community did. Ximhai (2011) found that indigenous children in northern Ecuador expected to imitate more privileged urban children, but continued with their cultural-religious process unaffected. Gonzalez (2015) for his part studied 8-year-old indigenous children. In their drawings, the children expressed their antipathy towards their school; they did not feel respected in their classes, or in the social, cultural, linguistic or ethnic groups that they belonged to.

Finally, the Saraguro children show a clear interruption in the intergenerational transmission of the language (Burneo, 2016), despite their positive attitude towards the language. Enriquez (2015) observes a predominance of Spanish over all the indigenous languages of the country in children from the Cañar province. There has been a decline in the number of children speaking Kichwa due to the lack of oral literature created in Kichwa, and the Kichwa books available in schools. The use of Kichwa within families also contrasts with the language used in schools, in the majority of only Spanish is used (Llambo, 2015).

## Method

The methodology used for the study is qualitative-descriptive (Cohen, Manion and Morrison, 2013) with an emergent design (Hernández, Fernández, and Baptista, 2010), which stresses the importance of the theory arising from the data rather than from a system of predetermined categories, and is based on “an open coding from which the categories emerge and then interconnect to produce a theory” (p. 476).

## Participants

The participants in the study are 225 indigenous boys and girls between 5 and 7 in six bilingual intercultural community schools: 60 from the ABC school in the Membrillo community; 46 from Mushuk Rimak; 34 from Inti Raimy; 29 from Inka Samana; and 19 from the Gera Community in San Francisco.

## Instrument

The study is based on Izquierdo's (2015) *emergent data collection theory*, and Solovieva and Quintanar's (2014) protocols, the emphasis being placed on cultural approximation. The approach with the children being given freedom to draw, then after a careful analysis of the drawings produced certain recurring elements are identified, which will constitute the final analytical categories. The model proposed by Molina (2015) is used as a reference for the analysis of the use of colour, and the placing and size of objects in the drawings; in this procedure, corroborated by the proposal of Wimmer (2014), in which the colours, shapes and sizes are analysed, particular attention is drawn to the precise ways in which they represent the external world. Finally, this study follows the application of categories to analyse the composition of the drawings, and Castellano and Roselli's (2014) procedure for the application of factorial analysis techniques and classification.

## Procedure

In order to obtain the graphic material from the students, a set of six instructions was formulated and shared with the teachers in the six schools taking part in the study. The instructions for the drawings are provided in both Kichwa and Castilian.

The instructions follow 5 steps:

- a) On an A4 sheet of paper, draw your community.
- b) In the drawing of your community you must include yourself.

- c) Write *the names of the objects which you draw in your drawing* (labels)
- d) *Paint the drawing*, and
- e) Write your name and class.

In order to assess the spontaneity of the language in instruction c), they are not told which language they should use, and nor are they told which objects they must include. The drawing sessions were conducted in the classrooms and within class-time for each course. No time limit was set for the drawings or for the conclusions, and they were given as much time as they needed.

## Results

### *Organization of the drawings in groups*

The 225 drawings are classified, in the first place, according to the language used to label the different elements included (*categories of analysis*). In this way four groups were obtained: *a)* drawings in Spanish; *b)* drawings in Kichwa; *c)* bilingual in Spanish and Kichwa; and, *d)* in no particular language.

### *Categories*

A total of 12 categories were analysed, equally, for the four groups: *1) sun, 2) countryside, 3) family, 4) house, 5) pets, 6) me, 7) tree, 8) cloud, 9) water, 10) flowers, 11) family gardens and 12) birds*. The analysis by category is determined by its size in the drawing. In this way we can observe the degree of importance that each pupil assigns to the elements represented in the drawing. Thus, another variable, corresponding to the size of each category, is introduced: small, medium-sized or large.

### *Analysis*

The 225 drawings are codified in terms of the four groups according to which they are classified (See table 1. Appendix1). To each group a letter is assigned, as well the number that corresponds to the number of graphic examples they contain.

#### ***Group A: Spanish*** (46,2%)

This is the most numerous of the four groups, with 104 drawings. They are codified from the series (a1) to (a104). In this group the category that features most often is *family*, with 60 drawings, representing 60.6% of the group. In *family* most of the representations, 24, are small, as can be observed in drawing (a51); 20 are large like example (a15); and 19 medium-sized like drawing (a5). The *house* category has 29 medium-sized representations like drawing (a25); 22 large as in drawing (a52); and 11 small ones. The *tree* category appears 40 times, the medium-sized ones like (a26) and the small ones (a28) are more frequent by far than the large ones, which only appear eight times. The *sun* category follows with 35 occurrences, the small (a1), medium (a22) and large (a30) being of similar size. The *Mountain* features 29 times: 26 of them large like drawing (a24).

There are 25 drawings, both small and medium, under the *pets* category; drawing (a30) contains an example of small pet animals and medium-sized are featured in (a18), while the only large example is (a36). The *clouds* category occurs 15 times, small ones like (a27) and medium-sized like (a10). There are also flowers, with 15 drawings, most of them small like (a5). *Family* gardens are included in 13 drawings, as in number (a10). The *water* category appears 10 times and almost all of them are medium-sized like (a31). The final two categories are *birds*, 8 times, most of them small (a37) and, the *me* category occurs 6 times, 3 times small and the others medium-sized, as in (a49).

In Figure 1, we can see a clear example of the fact that the *family* category is represented as small, with the *house* category as medium-sized being the majority in this group.



Figure 1. Drawing (a51) by a six-years old indigenous girl

### **Group B: Kichwa (13,3%)**

Under this group there are 30 drawings. It corresponds to the group with fewest representations of the four. The codes represent the sum total of the drawings with the letter *b*. The house category is the most numerous, with 18 occurrences, an equal number of small and large as in (b2) and (b15). The *sun* category is included in 13 drawings, number (b3), for example, is medium-sized. Drawing (b14) shows a small example of the *family* category. Then there are *trees*, with four large (b4), three medium-sized (b10) and two small (b8). In the *Mountain* category, most of the drawings are large, like (b6). There are 8 small representations of *family gardens* (b3), and of *pet animals*, all of them also small, as in (b11). With fewer than 4 examples there are *clouds* (b14), medium-sized, *water* (b13) large, flowers (b17) small and birds (b11) small. In this group, the *me* category does not appear.

Figure 2 features two categories: *house (wasi)* is represented as a small drawing and the *sun* as a medium-sized one. These two categories are the most frequently represented in group B, with drawings labelled in Kichwa.



Figure 2. Drawing b15, by 5-year-old indigenous child

### **Group C: Bilingual (12.4%)**

The third group is made up of 28 drawings. They are classified under the letter *c*. There are 17 representations of the *house* category, most of them large (c13), with six medium-sized examples, as in the case of (c10). Then there is *family*, most of them small (c3) and four of them either medium (c7) or large (c9). There are ten *tree* drawings, six large (c6) and four medium-sized (c8). *Flowers* appear eight times, four medium-sized as in drawing (c1). In the *sun* category there are four medium-sized drawings like (c5). There are three categories with four drawings: *Mountain*, *pet animals* and *clouds*; the mountains are large, as in picture (c5), the pet animals are medium-sized (c3) and the clouds are large (c11). For the *water* category, there is one representation for each size: small (c14), medium-sized (c6) and one large one (c12). The *me* category is also represented, with two small-sized drawings (c3) and (c6). There is one medium-sized drawing in the *family garden* category (c4) and the *birds* category is not represented by group C.

In Figure 3 we can see an example of a large-size drawing in the *house* category.



Figure 3. Drawing c3, by 7-year-old indigenous child



### ***Group D: Unspecified language (28%)***

In the last group there are 63 drawings classified under *d*. This is the second most numerous group in terms of graphic representation. The category with the largest representation is the *house* with a total of 58 drawings, 25 of them large (d48), twenty-four medium-sized (d7) and nine small (d12). Next is the *family* category with 48 examples, 19 small (d6), 14 medium-sized (d13) and 12 large ones, as in (d1). The next category is *Sun*, 37 times, sixteen medium-sized (d2), 12 large ones as in drawing (d20) and (d44) representing the small size. The *tree* category is next with 27 representations, ten large ones (d4), ten small ones (d27) and seven medium-sized ones (d25). After that, the *Mountain* category with 22 representations, of which 17 are large like (d3). There are three categories, *clouds*, *family gardens* and *pet animals* all with 17 examples. Most of the examples of the first of these categories are medium-sized, as in drawing (d4); almost all the drawings in the second are medium-sized, like (d31); and in the third category ten are small (d25). The *flowers* category is represented by 11 small (d5) and medium-sized (d3) drawings. Unlike in the other groups, the *me* category is featured in 10 drawings. Seven of which are small (d2), two large (d13) and one medium-sized. *Water* appears 5 times, with four large drawings like (d69). Finally, the *bird* category is represented in small size in (d17) and large in (d30).

Figure 4 offers an important example of the fact that the *House* category is represented by a large drawing and is featured in this way in most of the unspecified language drawings.



Figure 4. Drawing d48, by 6 years old indigenous child.

### **Discussion**

The discussion centres around two important foci: in the first place, the relationship between the spontaneity of the language and the most constant elements across the four variables; secondly, between the composition of the drawings and the observation of patterns applicable to the study of Kichwa cultural components common to all the groups.

In the group of drawings labelled in Spanish, group A, the most concurring elements that the indigenous children have chosen for their compositions are *family* and *house*, then the natural elements of their environment. This is the most numerous group, and

indicates in the Saraguro children a certain predominance of Spanish over Kichwa in terms of how they perceive things (Enriquez, 2015), and it also confirms *the interruption of intergenerational transmission* of Kichwa in the towns of the Andes, Burneo (2016). Despite their being asked to include themselves, the results show that they barely do so in the drawings, and in the few cases where they do, there is no indication that they see themselves as superior to other members of the family, like their siblings or grandparents. Thus we have an individual who conceives and communicates his or her environment as it is, a context configured by the Kichwa culture, which always emphasises the community as a construction within which the collective self is defined. The family always appears with its indigenous characteristics, and not as suggested by Colombres (2004), for whom the children saw themselves as separate from their indigenous identity. The children in the study view the family with its distinctive indigenous features in its forms and its activities. The findings also contrast with the view of Ximhai (2011) with regard to the influences of the urban context, as the Saraguro children, despite being very close to their urban environment, demonstrate a very clear idea of their own cultural identity.

The *houses* in the drawings have a design that is exclusive to the region; for example, they have tiles and are made of mud and wood. Between the *family* category and the *house* category there is a very strong cultural correspondence in that they both conserve the image and the design of their cultural setting. There is a cultural coherence linking people, actions and objects (Leal, 2010).

The natural elements that the Saraguro children draw symbolise the worldview, culture and landscape representative of the region. These elements contain an inherent knowledge, not only as their indigenous identity, but also as an explanation and a meaning of the world (Inuca 2017). This reflects a mimesis of the real object. The large *mountains*, the radiant *sun* and the abundant *trees* are a replica of nature, and at the same time are transmitted as cultural icons (Maeso, 2008).

On the other hand, in the Kichwa group, group B, *house* and *sun* are the most frequent elements. The numerical difference with respect to the first group is a little more than three-fold. Two things are worth noticing here, the linguistic antagonism, with Spanish used being the overruling language; and the cultural elements. In the Spanish language it is the social elements that are predominant, while in Kichwa it is the *house*, that is to say, the elements that are most closely aligned with the Sagaguro culture. This can be explained from the Kichwa culture, because it reflects their way of thinking; it is also comprehensible in terms of the phenomenon which Llambo (2015) refers to as *dysfunctionality* which the child experiences between the family language and the school language. This phenomenon is also implied by Enriquez (2015) when he refers to the failure of schools when it comes to oral and written production in the indigenous language, and to their failure to include a Kichwa bibliography in the learning and teaching processes.

Although the four groups are antagonistic in terms of language, processes of social and cultural integration, of adaptation of the patterns and harmonious development still come to light (Benavides, 2006), because the characterisations of the drawings, the environments, the relationships and the cultural distinctive do not get lost in the two groups of drawings, but reassert themselves despite the difference in spontaneous

language, and external factors such as the external policies relating to the country's indigenous culture and language.

The greater presence of a specific language is reflected by the prioritising or observing of certain elements. In the case of the Castilian language, the *family* appears as an element in more than half of the drawings; by contrast, in the case of Kichwa, the predominant elements are those that relate to indigenous culture, like *house* and *sun*. Everything is neatly packaged within the collective imagination (Chacón and Morales, 2015). In the drawings with bilingual labelling *house* and *family* are the most frequent elements. This reinforces the content of group A. After that appear the natural elements of fauna and flora, always in their natural context, and in a real, natural way. The natural elements, while they are less frequent than social or cultural ones, are always present and highlighted in their natural condition and environment, with a certain ecological and cultural connotation (Aguilar, Mercon and Silva, 2016).

Last but not least, in the group of drawings where the written language is not present, the *family*, the *house*, and the *sun* are the elements which appear most often, and after them come the natural elements. The fact that the local social and cultural elements persist in the Saraguro boys and girls confirms the influence, from the very first years of life in indigenous communities, of the culture of the ethnic group, by contrast with the central regions of the Ecuadorian mountain range, where Gonzalez (2015) identifies both indigenous and non indigenous elements in the formation of children's identities.

The indigenous has been present across all the variables, and the children include it in all the categories, despite the fact that Castilian has given rise to such a marked linguistic difference. This phenomenon is partly attributable to the *homogenisation of the Kichwa language*, cited by Grzech (2017), which results in the suppression of non-standard variants that are popular and still part of the everyday speech within families, but which are not taken into account in schools on account of the national plan for bilingual, intercultural community education. This plan sets out to incorporate, not only the native language, but also the intrinsic value of both the indigenous culture and the cultures it is in contact with, as well as the holistic training of the indigenous peoples, the inclusion of indigenous teachers in teaching programmes and a deep appreciation for hereditary knowledge (Gonzalez, 2015)

The *me* category is not very prominent. When it appears, it is in a balanced emotional and sociocultural context (Wimmer, 2014). Indigenous children communicate feelings of well-being in relation to their environment, and they appear in activities appropriate for their age. This trait also appears in children of the same age, as suggested by Moragón (2016) which explains it as the way in which one sees oneself and projects oneself.

Finally, the results also reflect a contradiction between the *Use of language* scheme as implemented in the bilingual pedagogical process, and the linguistic reality of the Saraguro children. The pupils at the stage of *Cognitive affective and psychomotor reinforcement*, between the ages of 5 and 7, should use their native language 50% of the time Spanish 40% and a foreign language 10%. What the findings show is that 46% of the children use Spanish, barely 13.3% Kichwa, and 12.4% use both.

## Conclusions

In conclusion we can argue that there is a clear predominance of the Spanish language in the drawings produced by indigenous Saraguro boys and girls, as a result of which, in the spontaneous use of language to name the components of their cultural environment, they prioritise the elements that constitute the community, the family, themselves and nature in any given drawing. Thus, the family, the house and natural elements, in that order, are much stronger and more recurrent in the children who chose to use only Castilian, or both Castilian and Kichwa. By contrast, in the case of the children who spontaneously only used Kichwa, the order is modified in that they prioritise first the house, then the sun and then the family and the natural elements. The Kichwa language in children is more closely associated with the cultural conception of the environment, whereas Castilian is more linked to social organisation.

While it is true that the spontaneous use of language reflects the importance hierarchies of the social, cultural and natural environment in a bilingual context, and in a context of cultural contact, this does not mean that Saraguro children are inclined towards a community identity that is shaped by superficial factors, or factors of social organisation, imposed from the outside, or in accordance with model projections configured by some kind of culturalisation. On the contrary, in their drawings children compose scenarios that are replete with elements that are native to their own culture, with the forms, landscapes, customs, social and social and work-related activities that comprise their indigenous identity. These findings are of crucial importance, because it proves that they feel deeply attached to the cultural identity that is constructed within the family and the indigenous community from which they derive their sense of belonging.

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***Factors Affecting Industrial Behaviors of the Students of Rajamangala University  
of Technology Thanyaburi***

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**Abstract**

The objectives of the research were to study the levels at which industrial behaviors have been developed by students of Rajamangala University of Technology Thanyaburi and to develop and review a causal model of how certain factors affect such behaviors. Stratified random sampling method was governed so as to select 492 senior students of Rajamangala University of Technology Thanyaburi of the academic year 2018 as samples. Questionnaires of rating 5 scales was governed as the research tool. Descriptive statistic, t-test, and ANOVA were governed to analyze data. LISREL Analysis was applied to revision of the consistency of the data. The results of consistency of the model revealed that the model was consistent with empirical data providing Chi-square ( $\chi^2 = 45.664$ ,  $df = 76$ ,  $p = 0.998$ ) which presented probability at 0.05, GFI = 0.989, AGFI = 0.978, RMR = 0.009, and RMSEA = 0.000. The results showed that predicted variable or casual factor of the students presented variance of variables of industrial behaviors at 78.2 percent. Predicted variable or casual factor of the lecturers, together with organization presented variance of variables of students at 84.1 percent. Predicted variable or casual factor of organization presented variance of industrial behaviors at 73.3 percent.

Keywords: Industrial Behaviors, Factors, Causal Model

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## Introduction

Important elements of human capital development are necessary to enhance Thailand's competitiveness in global and regional economic arenas. That is, the country needs to enhance the competencies of currently employed individuals and skilled labor who are set to enter the workforce under restricted resources and time frames. Accomplishing this goal requires collaboration with network partners in the joint development of basic competencies in accordance with the standards of industry groups. Such a collaboration can be directed toward initiatives designed to improve professional abilities and desirable traits for empowerment, such as ethics and industrial behaviors.

The key skills that the labor market needs are behaviors or characteristics that are typical of the industrial domain; these include (1) honesty, (2) discipline and punctuality, (3) responsibility, (4) the pursuit of learning, (5) diligence and patience, (6) saving, (7) safety, (8) creative thinking, (9) teamwork, and (10) public mindedness (Labor Master Plan, 2016). The development of industrial behaviors or characteristics also means the development of social competence, thinking, and reading, as well as efforts to increase interaction with others. Cultivating various environments conducive to success also makes it possible to solve problems in critical situations that are caused by questionable behavior. The development of labor quality by espousing industrial behaviors must adhere to the educational management process of academic institutions that handle the education of today's youth. A comprehensive approach is for institutions to teach social skills that cover all aspects of life. Other issues that must be considered are core life skills or basic life skills, which must be taught in a way that relates to application in daily life. Additionally, factors that may affect the cultivation of desirable traits, such as industrial behaviors, should also be considered. Accordingly, researchers have compiled studies and related documents to analyze relevant factors and the development of social skills among the youth. These documents consist of information on backgrounds, attitudes toward learning, and the motivation to study.

In consideration of the above-mentioned matters, the present study was conducted to examine the factors affecting the cultivation of industrial behaviors among students of Rajamangala University of Technology Thanyaburi and formulate guidelines on planning the establishment of relevant educational policy for students. The guidelines can inform improvements to the efficiency and effectiveness of course development and activities that promote student progress.

### *Research objectives*

The objectives of the research were to study the levels at which industrial behaviors have been developed by students of Rajamangala University of Technology Thanyaburi and to develop and review a causal model of how certain factors affect such behaviors.

### *Materials and methods*

The research population was composed of 4,184 senior students enrolled during the academic year 2018. The sample size was determined on the basis of the rule of thumb that indicates 10 to 20 people per variable as an appropriate composition (Hair et al., 2010). Because this research probed into multiple causal variables in a



structural equation model, there were 17 observable variables examined. Therefore, the researcher needed 20 participants for each variable to obtain a sample of at least 340 individuals. To ensure accuracy in the estimation of parameters, a sample size of 500 individuals was established, and participants were selected via stratified random sampling. Sampling was conducted in an affiliated faculty of the university that consists of nine departments and one college, from which 50 students each were recruited. During the actual data collection, however, the researcher was able to derive data from 492 individuals.

Data were collected using a questionnaire on factors that affect the industrial behaviors or characteristics of students at Rajamangala University of Technology Thanyaburi. The instrument, which was developed on the basis of relevant documents and research, consists of items rated on a five-point scale. It is divided into six parts: (1) a section on factors related to personal background, (2) a test of attitudes toward learning, (3) a test of the motivation to study, (4) a section on instructor-related factors, (5) a section containing questions about organizational factors, and (6) a section inquiring into industrial behaviors or characteristics. The content validity of the instrument was examined by five experts on the grounds of the index of congruence; the analysis showed that each item acquired a score higher than 0.5. The reliability of the instrument was analyzed on the basis of internal consistency, which was determined using the Cronbach's alpha coefficients of each set of items. The items generated a Cronbach's alpha coefficient of 0.971.

The data from the 492 questionnaires were analyzed in two steps. First, general data were examined on the basis of frequency, percentage, mean, and standard deviation. Second, the coefficient of correlation between variables and goodness of fit indices (GFIs) were analyzed to answer the research questions.

## Results

The results on the correlation coefficients in the causal model showed that most of the variables were statistically significant at the .01 level and that the correlation coefficients ranged from .119 to .735. The variables with the strongest relationship were teaching and learning and the personality of an instructor, with the correlation coefficient equal to .735. The variables with the second strongest association were teamwork and public mindedness, with the correlation coefficient equal to .721. Bartlett's test of sphericity was conducted to verify the hypothesis on whether the correlation matrix is an identity matrix or not. The statistical result showed a value of 4853.204 ( $p = .000$ ), indicating a unified matrix. The correlation between the observable variables differed from the identity matrix, with the former being statistically significant at the .01 level. This finding is consistent with the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy, which was equal to .941. Its closeness to 1 indicates that the variables in the dataset were very relevant and appropriate for the analysis. Details are shown in Table 1.

Table 1: Average, standard deviation and Pearson's product moment correlation coefficient of variables in the causal model affecting the industrial behaviors of students at Rajamangala University of Technology Thanyaburi.

variables	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	X1	X2
Y1	1																
Y2	.735**	1															
Y3	0.018	.113*	1														
Y4	.471**	.522**	.402**	1													
Y5	.675**	.689**	.093*	.528**	1												
Y6	.534**	.465**	.128**	.398**	.547**	1											
Y7	.472**	.448**	.153**	.346**	.505**	.565**	1										
Y8	.492**	.461**	.155**	.385**	.538**	.609**	.642**	1									
Y9	.494**	.505**	.148**	.388**	.565**	.477**	.609**	.577**	1								
Y10	.426**	.388**	.157**	.294**	.465**	.511**	.479**	.544**	.439**	1							
Y11	.361**	.337**	.182**	.285**	.391**	.425**	.356**	.422**	.376**	.541**	1						
Y12	.428**	.429**	.177**	.334**	.503**	.495**	.459**	.497**	.468**	.538**	.544**	1					
Y13	.467**	.447**	.119**	.307**	.509**	.513**	.478**	.491**	.517**	.479**	.545**	.615**	1				
Y14	.509**	.473**	.164**	.383**	.553**	.489**	.433**	.477**	.508**	.461**	.421**	.561**	.605**	1			
Y15	.493**	.463**	.176**	.388**	.555**	.459**	.469**	.444**	.496**	.364**	.372**	.541**	.600**	.721**	1		
X1	.608**	.599**	0.028	.394**	.586**	.473**	.445**	.469**	.436**	.427**	.356**	.417**	.477**	.492**	.451**	1	
X2	.627**	.626**	0.043	.398**	.570**	.466**	.425**	.446**	.476**	.426**	.419**	.437**	.482**	.487**	.438**	.709**	1
M	3.75	3.89	3.01	3.51	3.86	3.76	3.80	3.74	3.90	3.63	3.61	3.74	3.70	3.83	3.89	3.72	3.77
SD	.71	.77	.45	.56	.78	.83	.87	.85	.83	.85	.85	.82	.82	.87	.87	.74	.76

Bartlett's Test of Sphericity = 4853.204,  $P = .000$ ,  $df = 136$

Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .941

\*  $p < .05$ , \*\*  $p < .01$

The analysis was aimed at ascertaining the factors that promote the development of industrial habits/characteristics among students of Rajamangala University of Technology Thanyaburi. The conceptual framework of the research dictated the use of a causal model for this purpose. The exogenous variables were organizational factors (ORG), and the mediating variables were teacher- and student-related factors (TEACHER and STUDENT, respectively). The endogenous variables were industrial behaviors (HABITS).

The results of the analysis via causal-structural equation modeling (SEM) revealed that the conceptual framework was inconsistent with the empirical data. The researcher then adjusted the model by relaxing the initial level of agreement required to allow for measurement errors. The observable variables were related. The causal model was consistent with the empirical data. Figure 1 illustrates the results of the proposed parameter estimation, together with the findings of the analysis of the correlation between direct and indirect effects. The other statistical results are presented in Tables 2 and 3.

Table 2: Estimation parameters and related statistics for validation of causal models affecting industrial behaviors of students at Rajamangala University of Technology Thanyaburi.

Cause variable → Effect variable	Parameter estimation		SE	t
	Raw score	Standard score		
Measurement model				
Matrix LX				
ORG				
X1	1.000	0.831	<--->	<--->
X2	1.054	0.853	0.052	20.158
Matrix LY				
TEACHER				
Y1	1.000	0.866	<--->	<--->
Y2	1.062	0.848	0.049	21.804
STUDENT				
Y3	1.000	0.274	<--->	<--->
Y4	2.698	0.595	0.510	5.291
Y5	5.473	0.865	1.125	4.863
HABBITS				
Y6	1.000	0.717	<--->	<--->
Y7	0.980	0.670	0.066	14.806
Y8	0.998	0.698	0.062	16.022
Y9	1.004	0.717	0.071	14.166
Y10	0.915	0.641	0.067	13.624
Y11	0.803	0.563	0.070	11.460
Y12	0.928	0.673	0.069	13.447
Y13	0.982	0.711	0.069	14.127
Y14	1.047	0.714	0.073	14.260
Y15	0.992	0.677	0.074	13.463
Structural equation model				
Matrix GA (Gamma)				
ORG -> TEACHER	0.855	0.856	0.049	17.330
ORG -> STUDENT	0.083	0.414	0.028	2.973
Matrix BE (Beta)				
TEACHER -> STUDENT	0.108	0.538	0.031	3.480
STUDENT -> HABBITS	4.261	0.884	0.898	4.746
note: ** p < .01, <---> Do not report values SE and t because it is a constrained parameter				

Table 3: Statistical analysis of the influence of causal model on industrial behaviors of students at Rajamangala University of Technology Thanyaburi.

effect variables casual variables	TEACHER			STUDENT			HABBITS		
	TE	IE	DE	TE	IE	DE	TE	IE	DE
ORG	0.855 (0.049) <b>0.856</b>	- - <b>-</b>	0.855 (0.049) <b>0.856</b>	0.175 (0.036) <b>0.874</b>	0.092 (0.026) <b>0.460</b>	0.083 (0.028) <b>0.414</b>	0.746 (0.057) <b>0.773</b>	0.746 (0.057) <b>0.773</b>	- - <b>-</b>
TEACHER	-	-	-	0.108 (0.031) <b>0.538</b>	- - <b>-</b>	0.108 (0.031) <b>0.538</b>	0.460 (0.097) <b>0.476</b>	0.460 (0.097) <b>0.476</b>	- - <b>-</b>
STUDENT	-	-	-	-	-	-	4.261 (0.898) <b>0.884</b>	- - <b>-</b>	4.261 (0.898) <b>0.884</b>

Statistics

Chi-square = 45.664 df = 76 p = 0.998 GFI = 0.989 AGFI = 0.978 RMR = 0.009 RMSEA = 0.000

Variables	X1	X2	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Reliability	0.69	0.73	0.75	0.72	0.08	0.35	0.75	0.51	0.45
Variables	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	
Reliability	0.49	0.52	0.41	0.32	0.45	0.51	0.51	0.49	

Variable structure equation R <sup>2</sup>	TEACHER		STUDENT		HABBITS				
	0.733		0.841		0.782				
Correlation matrix between variables	TEACHER		STUDENT		HABBITS		ORG		
TEACHER	1.000								
STUDENT	0.892		1.000						
HABBITS	0.789		0.884		1.000				
ORG	0.856		0.874		0.773		1.000		

**note:** Total Effect (TE), Indirect Effect (IE) and Direct Effect (DE) were statistically significant at the level of .01 (p < .01).

Solid numerical values are the effect values in the standard score. Numbers in parentheses is the standard error.

The validation of the causal model uncovered good consistency with the empirical data, as evidenced by the chi-square value ( $\chi^2 = 45.664$ , df = 76, p = 0.998), which had a probability greater than 0.05, indicating that the main hypothesis is accepted. The hypothesis model was developed on the basis of the empirical data. The GFI was = 0.989, and the adjusted GFI (AGFI) was 0.978, regarded as 1 or approaching 1. The root mean square residual (RMR) was 0.009, while the root mean square error of approximation (RMSEA) was 0.000, with values approaching 0.

When reliability in the measurement of each observable variable was considered, the results revealed that most of these variables had good reliability, with values ranging from 0.50 to 0.75, except for the measurement variables, namely, cumulative grade point average (Y3), economics (Y11), attitudes toward learning (Y4), diligence and patience (Y10), discipline and punctuality (Y7), safety (Y12), responsibility (Y8), and creativity (Y15), which have relatively low precision, as reflected by values falling between 0.03 and 0.49. The consideration of the predictive coefficient ( $R^2$ ) of the structural equation of internal variables that are dependent and transmitted in nature indicated that the predictive variables or causal factors explained up to 78.2% of the variance in industrial behaviors. These variables were industrial behaviors ( $R^2 = 0.782$ ), student-related factors ( $R^2 = 0.841$ ), and teacher-related factors ( $R^2 = 0.733$ ). The predictive variables or causal factors for the instructor and organizational factors collectively explained 84.1% of the variance in student-related variables, whereas the predictive variables or organizational factors explained 73.3% of the variance in industrial habits.

To interpret the results, the magnitude of the influence between variables was analyzed. The variables are discussed in order thus:

#### *Industrial habits*

The extent of influence in the form of standard scores of variables in the model that are predictive or causal in nature with respect to industrial characteristics was investigated. The results indicated that the variables directly influencing industrial characteristics were the student-related factors (cumulative GPA, attitudes toward learning, motivation to study), with the magnitude being 0.884. This value reflects that the students had considerable industrial characteristics. The teacher-related factors indirectly influenced the industrial characteristics of the students. The indirect influence of the student-associated factors reached a level of 0.476, and the organizational factors indirectly influenced the industrial characteristics of the students through teacher- and learner-associated factors, with the degree of influence amounting to 0.733.

The total effect (TE), direct effect (DE), and indirect effect (IE) on industrial characteristics were also considered. The variables with the highest influence on industrial characteristics were the student-related factors (TE = 0.884), followed by the organizational factors (TE = 0.773) and instructor-associated determinants (TE = 0.476). The variables with the highest direct influence on industrial characteristics were the student-related factors (TE = 0.884), whereas those exerting the highest indirect influence were the organizational factors (TE = 0.773) and instructor-related factors (TE = 0.476).

#### *Learner-related factors*

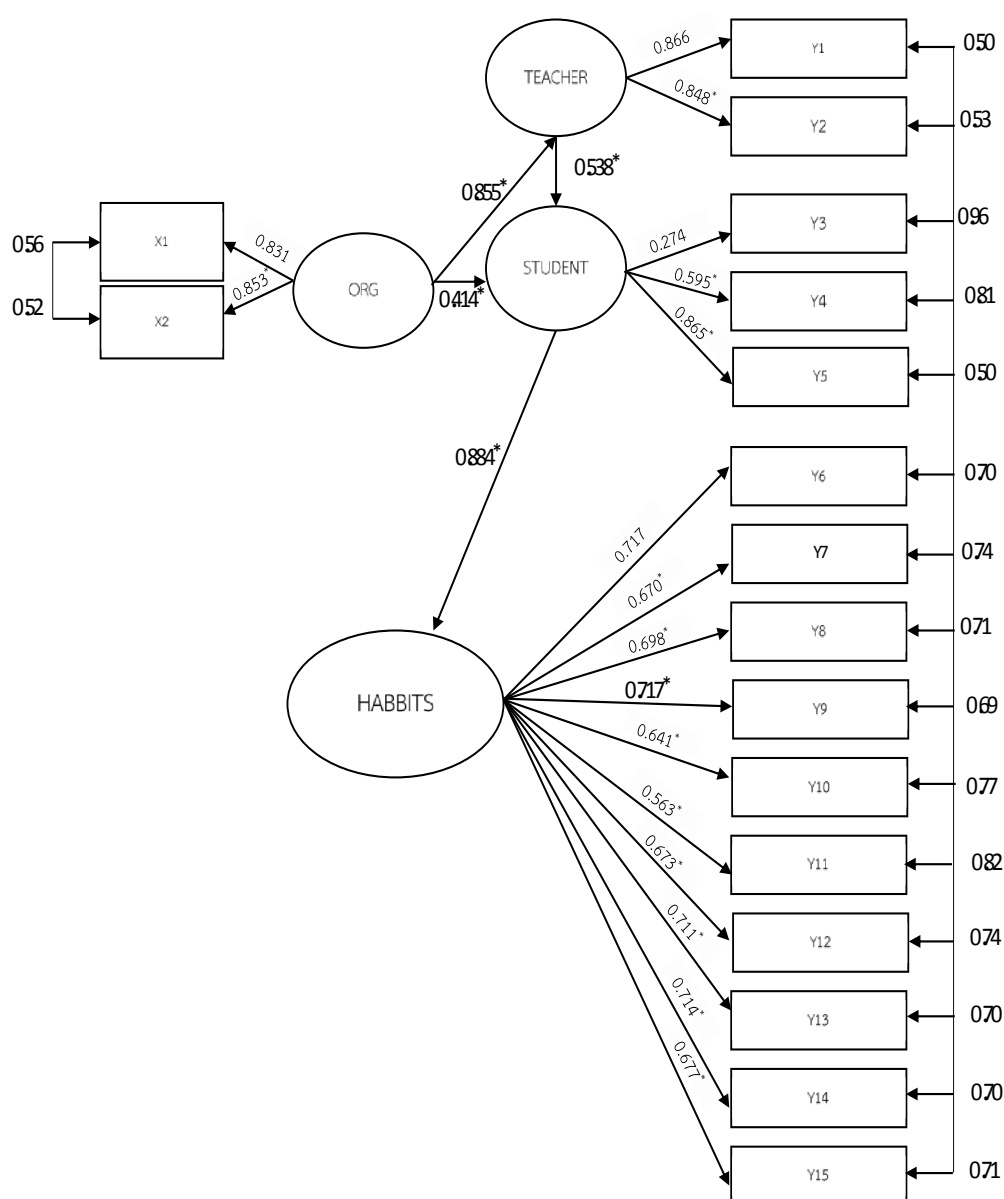
Influence was ascertained on the grounds of the standard scores of the predictive variables or causal factors in relation to learners. The findings showed that the variables with the strongest direct influence on the learner-related factors were the teacher-associated determinants, followed by the organizational factors. The magnitudes of influence from these variables were 0.538 and 0.414, respectively, showing that student development of industrial characteristics are affected by both teaching and learning factors as well as the personality of competent teachers. The organizational factors, either in terms of classroom atmosphere or a good school

environment, enhanced the student-related factors, which in turn, paved the way for the meaningful development of industrial characteristics.

### *Teacher-related factors*

The analysis of the teacher-related factors unraveled that the variables directly influencing instructor-associated determinants were the organizational factors, with the extent of influence being equal to 0.856. This finding shows that students who are exposed to organizational factors are also exposed to high-quality teacher-associated factors; this exposure, in turn, means enhanced student-related factors and the consequent substantial development of industrial characteristics. The results are presented in Table 3 and Figure 1.

Figure 1: Causal model affecting industrial characteristics of students at Rajamangala University of Technology Thanyaburi consistent with empirical data.



## Conclusion

Causal modeling was carried out in three phases: the analysis of the coefficient of correlation between the observable variables of the model, the validation of the model, and the analysis of influence between the variables.

First, the results of the correlation coefficient analysis revealed that most of the variables were statistically significant at the .01 level and that the correlation coefficients ranged from .119 to .735. The variables with the strongest relationship were the teaching and learning variables and the personality of an instructor. The correlation coefficient was equal to .735. The second strongest relationship was that exhibited by teamwork and public mindedness, with the correlation coefficient being .721. Bartlett's test of sphericity generated a value equal to 4853.204 ( $p = .000$ ), showing that the matrix of correlation between the observable variables differed from the identity matrix, with statistical significance at the .01 level. This finding is consistent with the results of the KMO index, which amounted to .941. This reflected that the variables in the dataset were highly relevant related and suitable for the analysis.

Second, the validation of the causal model uncovered good consistency with the empirical data, as manifested in the chi-square value ( $\chi^2 = 45.664$ ,  $df = 76$ ,  $p = 0.998$ ), which had a probability greater than 0.05. This result means acceptance of the main assumption. The theoretical model was developed on the basis of the empirical data. The GFI = 0.989, the AGFI = 0.978, the RMR = 0.009, and the RMSEA = 0.000. The examination of the reliability of variable measurement indicated that most of the observable variables had good reliability. The reliability value fell between 0.50 to 0.75, except for cumulative grade point average (Y3), economics (Y11), attitudes toward learning (Y4), diligence and patience (Y10), discipline and punctuality (Y7), safety (Y12), responsibility (Y8), and creativity (Y15). These had relatively low precision that fell between 0.03 and 0.49. The predictive coefficient ( $R^2$ ) of the structural equation of internal variables that are dependent and transmitted variables demonstrated that the predictor variables or causal factors explained 78.2% of the variance in industrial behaviors. These variables were industrial behaviors ( $R^2 = 0.782$ ), student factors ( $R^2 = 0.841$ ), and teacher factors ( $R^2 = 0.733$ ). The predictive variables or causal factors for the teacher-associated and organizational determinants jointly explained up to 84.1% of the variance in the student variables, and the predictive variables or organizational factors explained 73.3% of the variance in industrial habits.

Finally, the magnitude of influence between the variables were analyzed thus: The variables that directly affected industrial behaviors were the student factors, with the influence reaching a magnitude of 0.884. This shows that students with high-quality student factors (cumulative GPA, attitudes toward learning, motivation to study) substantially develop industrial characteristics. The teacher-related factors indirectly influenced industrial characteristics. The variables on student factors with indirect influence of 0.476 and the organizational factors also indirectly affected industrial characteristics through the teacher- and learner-related factors, with the influence reaching a level of 0.733. The TE, DE, and IE of the variables on industrial characteristics pointed to the fact that the variables with the highest influence on industrial characteristics were the student-related factors (TE = 0.884), followed by

the organizational factors ( $TE = 0.773$ ) and instructor-related factors ( $TE = 0.476$ ). The variables with the strongest direct influence on industrial attributes were also the student-related factors ( $TE = 0.884$ ). The greatest indirect influence was exerted by the organizational factors ( $TE = 0.773$ ) and instructor-related factors ( $TE = 0.476$ ).

The variables that directly affected the learner-related factors were the teacher-related determinants and organizational factors, with magnitudes amounting to 0.538 and 0.414, respectively. These values indicate that students exposed to both teaching management factors and teacher personalities satisfactorily develop industrial behaviors. The organizational factors, either in terms of classroom atmosphere or good school environment, resulted in strong student-related factors, thereby facilitating the improved cultivation of industrial characteristics. As regards the teacher-associated factors, the variables with direct effects were the organizational factors, whose extent of influence reached 0.856, reflecting that the students were exposed to favorable organizational factors. This positive result, in turn, translates to exposure to high-quality teacher- and student-associated factors and, ultimately, to the enhanced development of industrial characteristics.

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*Alternatives to SDGs-based Global Issues Pedagogy in ELT*

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**Abstract**

The Sustainable Development Goals (SDGs) are frequently used as a frame of reference for the teaching and learning of Global Issues content in English Language Teaching (ELT). This paper argues that the prevalence of SDGs-based Global Issues pedagogy in ELT is partially the result of a well-intended but uncritical acceptance of the validity of the SDGs as a framework for thinking about social, economic, and ecological well-being. This paper surveys a number of critiques of the SDGs and highlights the necessity of complementing the use of the SDGs in Global Issues study with alternative conceptions and movements that promote social, economic, and ecological well-being, including: Buen Vivir from Latin America, Ecological Swaraj from India, Ubuntu from South Africa, and the de-growth/post-growth movement. In the course of comparing and contrasting these approaches to social, economic, and ecological well-being, this paper offers alternative approaches as to how teachers might introduce and discuss Global Issues with their. The goal is to raise awareness of the need for more critical reflection on the use of the SDGs as a frame of reference when teaching and learning about Global Issues in ELT.

Keywords: Buen Vivir, Swaraj, Ubuntu, Degrowth, Global Issues, ELT

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## Introduction

Global Issues (GI) pedagogy in English Language Teaching (ELT) is the incorporation of GI topics into English language education curricula with goals of developing both ability in the language and knowledge of GI which “refer[s] to world problems such as war, hunger, poverty, oppression, racism, sexism, environmental destruction and to concepts such as peace, justice, human rights, sustainable development, social responsibility, and international understanding” (GILE SIG, n.d.). The Sustainable Development Goals (SDGs) have become a common framework for raising and teaching GI topics in ELT and they provide a ready-to-use format for thinking about the direction of development and what kinds of actions might improve the lives of many people throughout the world. However, the SDGs are not the only model for considering the development and well-being of individuals and communities, nor are they without criticism. The ready-to-use format of the SDGs means that they are convenient and relatively simple to integrate in ELT, but uncritically using the SDGs is problematic. The purpose of this paper, then, is to highlight critiques of the SDGs and introduce alternative models that could be used in GI pedagogy in ELT.

## Critiques of the SDGs

The SDGs are wide-ranging and there are many details that could be criticized. However, the details of individual SDGs are not the focus here. The focus is on the foundations of the SDGs as a framework for development which teachers frequently use in GI pedagogy in ELT. There are two main themes in criticisms of the SDGs’ foundations: A) They portray development in linear, monologic terms; and B) They are internally incoherent. The first charge is based on how the SDGs assume that societies develop toward uniform goal(s) and that development is the same as progression toward social and economic outcomes that characterize Global North, wealthy, industrialized societies today (Briant Carant, 2017; Kothari, Demaria, & Acosta, 2014; Spangenberg, 2017; Yap & Watene, 2019); the second charge is that the SDGs contradict one another, especially in terms of trying to promote both limitless economic growth and ecological sustainability (Hickel, 2019; Spaiser et al., 2017). Too often the SDGs are used as a framework or basis in GI pedagogy in ELT that ignores these critiques. Moreover, alternative models are also ignored.

## Alternatives to the SDGs

There are many alternative models to use to think about development. Four alternatives will be briefly discussed below: Buen Vivir from Central and South America, Ecological Swaraj from India, Ubuntu from southern Africa, and Postgrowth/Degrowth economics.

Buen Vivir is a perspective rooted in Indigenous worldviews from Central and South America that pertain to individual, social, and ecological well-being. It breaks with conventional notions of linear development. Rather, it maintains that different communities will have different preferred goals and outcomes. It is highly concerned with biocentric principles and reciprocity both between people and between humans and the more-than-human world. More information about Buen Vivir can be found in Acosta (2016), Hicks (2016), and Salazar (2015).

Ecological Swaraj, which is also referred to as Radical Ecological Democracy, advocates for ecologically-sensitive and localized autonomy. Thus, like Buen Vivir, it recognizes a plurality of paths toward individual and community well-being. Although it emphasizes bottom-up social change, it also maintains that development is dialogic and that both small communities and large political collectives might learn from one another. More information about Ecological Swaraj can be found in Kothari (2016; 2018).

Ubuntu is a relational and communitarian philosophy whose worldview is partially conveyed in the expression ‘I am because we are’. It places high value on social personhood and solidarity, meaning it is an inclusive approach to well-being. Because it recognizes the collective responsibility of well-being, it counterbalances aspects of neoliberal economic development. More information about Ubuntu can be found in Shumba (2011), Tutu (n.d.), and Van Norren (2014).

Postgrowth and degrowth economics are concerned with reducing aggregate growth and using growth as a proxy for well-being; that is, there are other, perhaps better, ways to think about well-being than, say, gross domestic product. While acknowledging that growth should continue in some parts of the world, the wealthiest parts of the world need to shift to less productionist and consumptive practices. Advocates of postgrowth and degrowth economics emphasize that unlimited economic growth is incompatible with planetary limits and ecological boundaries, and policymakers should focus the well-being of communities rather than growth for growth’s sake. More information about postgrowth and degrowth economics can be found in Kothari, Demaria, & Acosta (2014), Burkhart et al. (2016), and PGI (n.d.).

### **Using the Alternatives**

All of the alternative ways of thinking about development introduced above can be integrated into GI pedagogy in ELT. Any, or all, of them, for example, could complement SDGs-related units/activities in a compare and/or contrast format. They could also be used to refocus thematically from ‘development’ to ‘well-being’. They could be used in studying the history of development. They could even be used to scaffold the study of case studies of particular communities and movements.

Specific examples of such topics for the above might include: A) reading about and discussing Buen Vivir and rights of nature legislation in Bolivia or Ecuador; B) running thought experiments about whether money is necessary (Is a community that doesn’t use or have modern concepts of money ‘poor’?); C) studying how racialized colonialism turned self-sufficient societies into impoverished ones; D) highlight Indigenous perspectives on development issues such as the attitudes of Native Hawaiians to tourism; and E) compare different metrics of well-being that are not based on economic criteria such as GDP.

### **Conclusion**

The SDGs are a common framework for GI pedagogy in ELT. However, there are important critiques of the SDGs and uncritically teaching using the SDGs is problematic. There are alternative ways to think about ‘development’ and ‘well-being’, including: Buen Vivir, Ecological Swaraj, Ubuntu, and postgrowth/degrowth

economics. These alternatives can be incorporated into GI pedagogy in ELT alongside, in addition to, or in place of the SDGs.

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## ***Integration of Mobile Application in a Flipped Classroom for Language Learning***

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### **Abstract**

The goal of the integration of mobile learning into a flipped classroom teaching is to offer a new way of language learning for students and reduce the teacher's role in the classroom. This new transformation from a conventional teaching and learning approach to heutagogy and paragogy approaches is to meet the criteria for a student-centered approach and to embrace the differences. This will also promote teachers' creativity in creating teaching and learning materials, "My Speaking App" is designed to match the purpose for personal use for the speaking skills practices in learning the second language (English) in a non-face-to-face environment. My Speaking App offers a variety of supports to enhance the success of Malaysian language learners in their English communication skills. My Speaking App delivers personal mentoring from the tutor and intervention strategies related to non-cognitive behavioral practices to ensure language learners are motivated. This mixed-mode research allows researchers to gather data qualitatively and quantitatively. Language learners responded to a survey after experiencing the flipped classroom learning with the use of the mobile app before they entered the language class for six months' duration. Analysis of results demonstrated that mobile application was effective in the flipped classroom in supporting students' lifelong learning, especially in language learning.

Keywords: Heutagogy, My Speaking App (MSA), Flipped classroom, Face-to-face (F2F), Non-face-to-face (NF2F)

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## Introduction

Language teaching and learning has been transformed from conventional practices to a more complicated interactive mode including cybergogy. Textbooks and other hardcopy reading materials are being replaced in small but compact digital devices such as smartphones. The storage in smartphones is easily accessible at any time and any place. Jeschke (2014) stated that the challenges of 4.0 education should be personalized, connectedness through social media, problem-solving, and crowdsourcing. The revolution of digital technology supported Mobile learning in 4.0 education that may attract the users to switch themselves from a conventional way of learning to their favorable style of learning, and this aligns with the needs of the 4th and 5th Industrial Revolution. To show that language teaching has always been dynamic and active, educators need to embrace the differences in the way they teach by creating and innovating sophisticated, creative, and interesting teaching and learning materials or applications. The most significant change, which educators need to consider in developing any teaching and learning app is for this Z generation and future Alpha generation who is a digital native. The differences made by the educator will also reflect the pedagogy growing trend among the world language teachers across the board.

The main concern in language teaching is that we want learners to use the language instead of learning about the language. In a common traditional F2F scenario, we need both speaker and listener present at the same time and place (Abu Bakar, 2017) to communicate. Is it possible for a teaching and learning session to be conducted in different contexts and at different times, without facing each other? How? Of course, it is possible because the learners are using the language through the integration of technology, by using their digital devices such as smartphones, and this could be the next alternative for virtual communication, a functional alternative to F2F communication (Flaherty, et. al.1998). This notion supports the use of the mobile application for speaking practices as NF2F communication channel as complements for one of F2F communication. Thus, the scope for this current research focusses on the speaking skill, which is considered as the most important language skill the learners need to master. The app MSA was designed and developed as a functional alternative to F2F communication while the 'Flipped classroom' approach was used as the intention to have 90% of student's engagement to use the language to communicate throughout the class period. The combination of non-face-to-face (NF2F) language learning (individual assignment were given before the next class via the use of 'My Speaking App') and face-to-face (F2F) group discussion in the class, as a regular practice, will result for better day-to-day communication among the language learners.

Life in a college or varsity are challenges when students are burdened with tons of assignments. This causes them a problem in finding a partner and time to use and practice the second language in a group discussion. Therefore, the current study is implemented to prove that technology can help them because there is limited research conducted in analyzing speaking practices through mobile apps. The use of the mobile app is still considered as a new way of practicing language skills. Practicing speaking skills will reduce communication apprehension (CA) or a person's level of anxiety among language learners. By using a mobile app to practice using the second

language as the NF2F medium of language learning will help language learners to reduce their anxiety level and increased their non-cognitive skills in the process of learning in other ways of class approach. Conducting a 'Flipped Classroom' for language class offers more time for language learners to practice using the language as they were assigned with the related task at home before they entered the class the next day. The lecturer's role has shifted in this approach from a knowledge owner to a facilitator, and the main actor is the students in the class. Students will have ample time to use the language and be more prepared to communicate F2F in the given time frame.

It is important to highlight a new way of language learning and to embrace the differences to the new generation because it eases them in many ways in this study. Flipping the classroom from conventional ways of practicing speaking skills conducted by most of the teachers give them a dull experience when they had familiarity with the technique used since they were in secondary school. It is about time to change the scenario to a new approach of learning as this nurtured their non-cognitive skills too in leading them to do better in their cognitive skills.

It is hoped that the findings of this study will contribute to 4.0 Education, whereby, specifically the use of the mobile application can be integrated into a 'Flipped Classroom' approach. Besides, it will also be an encouragement for an educator to design and develop their teaching and learning materials in a simple, fun, and creative way by using a mobile application. This study intends to answer these questions:

- (1) How do students perceive their experiences in using the mobile application in a flipped classroom for speaking practices in learning the second language?
- (2). How effective is the use of the mobile application in the flipped classroom language learning in supporting students' lifelong learning and non-cognitive skills?

## **Literature Review**

The review presented below covers three important themes: student engagement in non-cognitive skills in language learning, flipped classroom approach, the potential of mobile learning attributes.

### **Non-cognitive skills in language learning**

Language learning is a lifelong learning process that involves cognitive and non-cognitive skills in the whole process of learning. Students' cognitive skills are assessed through a series of English tests, while their non-cognitive ability is varied because the skills are developmental across a person's lifetime. Non-cognitive skills as representing the "patterns of thought, feelings and behavior" (Borghans et al. 2008) of individuals that may continue to develop throughout their lives, and that plays some roles in the education process. This situation can be seen when language learners experience a new way of language learning, especially in learning speaking skills by using mobile applications through the flipped classroom approach. Non-cognitive skills, which are relevant to the education process, include critical thinking skills, problem-solving skills, emotional health, social skills, work ethic, and community responsibility (Rothstein, Jacobsen, & Wilder, 2008). The aforementioned skills above exist in the process of language learning in a face-to-face (FTF) or even

in non-face-to-face (NFTF) communication via exercises provided in a mobile application, namely My Speaking App (MSA). The student-centered approach in Flipped Classrooms and the interactive platform embedded in the mobile apps allow close interaction among students and teachers. Through the use of lessons provided in the app, the skills can be nurtured implicitly and explicitly from the perspective of language learning, such traits as persistence and communication skills. Non-cognitive skills also reinforce cognitive skills, measured independently, yet interdependently (Gabrieli, Ansel, and Krachman 2015). Researchers found and adapted the non-cognitive skills suggested by Farrington et al. (2012) in the research framework because they are strongly associated with academic performance are academic behaviors (participating in the group discussion in a flipped classroom), academic perseverance (grit; student ask and answer at the earlier stage in the classroom), academic mindsets (student feels a sense of belonging when teacher coach them in the classroom), learning strategies (e.g. metacognitive strategies and goal-setting), and social skills ( interpersonal skills and cooperation; when learner collaborate to solve the problem and present the solution ). Jackson (2012) found that the presence of English teachers has important effects on non-cognitive skills while Ruzek et al. (2014) added that teachers influence their students' motivation, as measured by mastery and performance achievement goals while their influence varies in their ability to enhance students' non-cognitive skills although the effect sizes are smaller for non-cognitive than for cognitive skills (Araujo et al., 2016).

### **Effectiveness of M-Learning for lifelong learning- Heutagogy, Paragogy and Collaboratively**

M-learning focusses both for personalized and collaborative learning depends on how it was conducted or used. As stated by Kulkuska, (2019), mobile language learning became one of the leading areas of research and development, and it became an everyday practice engagement for anyone who wishes to learn a new language or improve their language skills with the help of free apps and online resources. The effectiveness of M-Learning can be seen when mobile devices combine the affordances of social media tools which allow the user to create, communicate, and share content in their everyday life without any temporal limitations. This heutagogy approach amplifies the learner's ability to determine and direct their learning by choosing or creating an appropriate context for their learning (Narayan, Herrington, & Cochrane 2019). Hase and Kenyon, (2000) define heutagogy as a progression of pedagogy and andragogy, where the learner has the autonomy to determine and direct his learning path and process. Besides, Kamrozzaman, Badusah, and Wan Mohammad (2019) revealed that the heutagogy approach's element increased when it displays the highest mean and positive responses toward technology and the relationships are interconnected between sharing and connectivity elements. Thus, this support that M-Learning is effective in promoting the heutagogy elements among the language learner. Besides that, the element of paragogy was also highlighted when the learner's motivation increased when they were connected through mobile social media to the other learners. They also have better opportunities to do revision and practices, and it is easier for them to learn new vocabulary or dialogues through frequent repetition in the day (Kulkuska, 2019). However, in completing the task a learner might require assistance to get over an unpredicted hurdle, to enable them to progress in their learning or to reflect on their progress, a social platform Telegram, or

WhatsApp link are provided in the design and the development of MSA from the language tutor. Mobile phones are a convenient everyday means of summoning help in emergencies and getting in touch with people who can offer support, as well as a means to access specific resources (Kulkuska, 2019). Language learner lifelong learning will continue in the Flipped Classroom approach when the learner has the elements of heutagogy, paralogy, and collaboratively in their life. There are many studies proved that Flipped Classroom Model helped students to be more responsible and independent in their learning process, particularly in communication (Lin & Hwang 2018), and Fisher et al. (2018) stated that flipped classroom had a significant contribution to learners' perceptions of learning satisfaction, engagement and less regarding their performance, while Yahya, Supyan, and Kemboja (2019) indicate that the application of FCM is an effective approach in the EFL speaking classroom in-class and out-of-class activities. Therefore, in this current study researchers would like to investigate the integration of our mobile application designed in a flipped language classroom towards learners' non-cognitive skills and speaking performance in their lifelong learning.

## **Methodology**

A study was conducted to find solutions to the problems that arise in enhancing the language learners' speaking performance, specifically for individual presentation and group discussion. MSA was developed to meet the aforementioned objectives. Students were exposed to the app for four months before they sat for the speaking assessment. They had their practices through the exercises provided in the app as it compiles the complete language learning package, MSA consists of speaking tips, tutorials, speaking simulation, and assessment. The users will also be guided by the tutor in enhancing their speaking performance through the Telegram App or WhatsApp attached to the app. The approach used in this study was a mixed-method, to collect both qualitative and quantitative data. A survey on user perception, including their experience in using the app and learning in a 'Flipped classroom', was conducted for quantitative analysis, among 58 engineering students. Additionally, a qualitative approach was used for the interview session among 5 respondents to gain an in-depth analysis of results to determine the design, contents, usage, and benefits of the app and scaffolding group discussion.

## **Mobile Application: My Speaking App in a Flipped classroom**

Mobile gadgets have become a survival tool for learning. In fact, "Learning through mobile applications, increase student interest, achievement and motivation" (C-H Su & -H. Cheng, 2015). Hence, it is necessary to design and develop mobile learning applications for NF2F in learning English language skills to enhance students' communication skills. MSA is a complete language-learning package designed and developed for language learners based on Asian local context. MSA focuses on social expression usage and speaking practices. It is suitable for personal learning as language users can use it flexibly and at their own pace. The main goal of the app is to offer a new medium of NF2F the environment in learning and acquiring the speaking skills. In the app, language learners can record their answers or opinion and detect their mistakes when they listen to the recording again. This virtual speaking practice offers more personalized learning to the language learners and solved the problem of

finding a partner for F2F communication. It is hoped that by using MSA, language learners who will be presenting their thought or opinion, individually or in the group, will be familiar with various speaking contexts and topics. MSA will expose them to real-life situations whereby polite or correct expressions are used for apologizing, asking for clarifications, interruption, giving descriptions, etc. Another purpose is to provide the language learners adequate and interactive practice in using the language expression in delivering their opinion on the issue raised as personal learning. The app consists of individual and group speaking tips, grading criteria, lessons, practices, enrichment exercises, vocabulary banks, YouTube simulation of group discussion, and media social links such as WhatsApp and Telegram. Bloom's Taxonomy prescribed the level of practice difficulty in the app. Users can listen to an interactive audio simulation of the group discussion.

In a flipped-classroom approach, students are free to explore the app contents and choose the situation and types of a candidate they interested in such as Candidate A, B, C or D based on a group sitting of four members. They will go through the app content and have their practices before they enter the English class. They can record their own opinion of the task given in the app just by using the microphone icon provided in the app, personally at their own space and location. The app has a limitation in evaluating an opinion as it is very subjective for artificial design to be formulated, as different people have different opinions. The student will use the app to watch the group simulation by using the YouTube link provided in the app before they enter the class. Flipped classroom focuses on students centered when the teacher acts as a facilitator. First five minutes in the class they will have the Question & Answer session about their assigned task. This involved academic perseverance in non-cognitive skills; student's grit. The student's courageousness in questioning and answering the teacher is nurture in this session. The other 20 minutes of the class will be focusing on group discussion on the problem raised in the app. Next, a non-cognitive skill that nurtures through this activity is academic behavior is student's participation in the group discussion. The other activity that focuses on the student is a group presentation that allocates 30 minutes. This involves of non-cognitive social skills, where the student shows their interpersonal skill and cooperation in their group presentation. At this stage, they will be evaluated individually and in a group by the facilitator. While the presentation is ongoing, the facilitator will also act to coach students, who faced difficulty in language learning. By doing this, the student feels a sense of belonging in the language class, which fulfills the non-cognitive skill of mindset. Besides that, learners will also be scaffold by the language tutor through the WhatsApp /Telegram platforms when they use mobile apps (MSA), where they can get help and guides from the tutor to further improve their speaking skills.

Figure 1 below is the research 'Flipped Classroom' design, which portrays interaction of the system and the user or whoever uses the application and ways to use it in a flipped classroom. The MSA application is used as a tool for flipped classroom design, which offers learners to have their own personal and free learning before they enter the class.

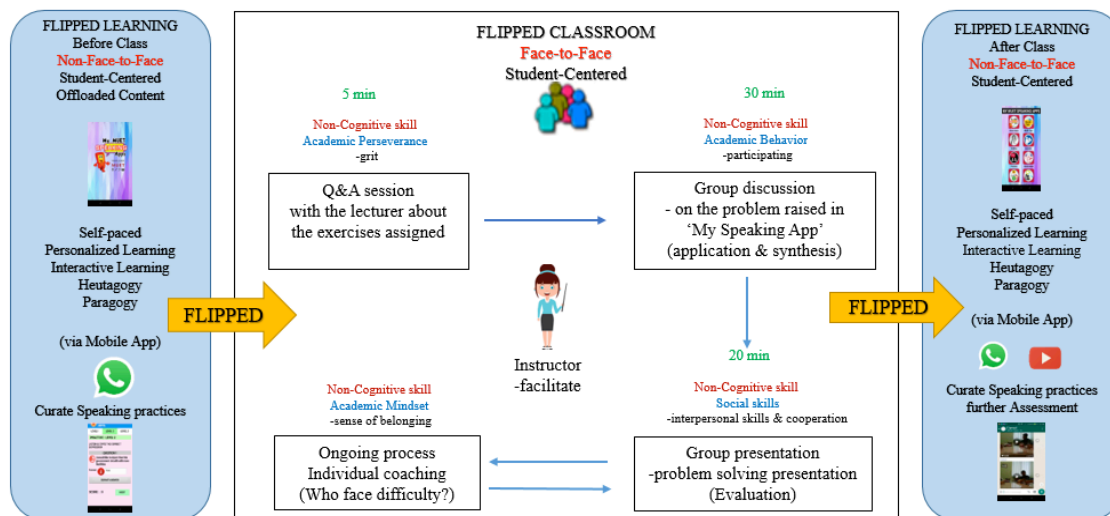


Figure 1: Flipped Classroom language learning design

## Results and Discussion

RQ1: How do students perceive their experiences in using the mobile application in a flipped classroom for speaking practices in learning the second language?

The answer to this question is about learner's perception of Flipped Classroom experience in using mobile applications (MSA). It evaluates the students' acceptance of the flipped instruction used in this study, with constructs, including motivation, relevance, engagement, and overall satisfaction. The results revealed that the learners' responses to all four constructs fell into the upper intermediate category, with the mean scores of 3.83 (motivation and engagement), 3.67 (relevancy), and 3.86 (overall satisfaction) respectively. Most of the learners' were satisfied with the flipped classroom experience, "I prefer the flipped classroom to a conventional tutorial-based classroom", had the highest mean score (3.91), and with 53 responded "strongly agree" and 5 responded, "agree". This is because they can practice using the language earlier with the app in a non-face-to-face environment before they face the real partner to communicate, which lessens their anxiety level compared to a conventional speaking class.

Table 1. Descriptive statistics of the perception of a flipped learning experience.

Construct	SD	Mean	Min.	Max.	No. of Items
Motivation	0.378	3.83	2	4	3
Engagement	0.378	3.83	2	4	4
Relevancy	0.469	3.67	1	4	4
Satisfaction	0.345	3.86	2	4	1

Note:  $N=58$

The students' overall flipped classroom learning experiences were also been collected via semi-structured focus-group interviews. The interview comments were analyzed based on the themes, as related to their motivation, ease of use and enjoyment, time factors and grit in their learning, their level of nervousness in face-to-face communication versus non-face-to-face communication, and their perceptions of the

use of the mobile application in a flipped classroom. Researchers found that, in most cases, the students thought that the flipped instruction used in this study was a good way to learn English language expression and allow them to participate more. Though numerous online and interactive platforms have been exposed to the students such as google classroom, Pad-let, etc., which have provided the same functionality as required in a flipped classroom, they prefer to use mobile app. "I prefer to use MSA for the class and feel motivated to speak in English", said student K. "I feel more motivated than before." Student X commented that "I love to use my smartphone...is easy, it's just like having a compact book in it, I can use it at any time and place". While student F mentioned enjoying practicing speaking with the tutor, a virtual learning style. Student J felt that "Using MSA for speaking practices solve our problem to find partner or lecturer in having face-to-face communication and more interesting. I think a conventional tutorial-based class is boring and this is interesting. Using MSA helps us a lot because we can repeat the exercises". Few students commented that the MSA contents are quite limited, they suggested having some fun elements of the simple game such as word puzzle. Two students commented on the flipped classroom instruction required more time than a conventional class. However, most of the students accepted the given instruction, and time and workload are not burdening them. In case of low anxiety level among students, having this non-face-to-face speaking practices via using MSA, lessen their nervousness level when they face their classmates or lecturers. "It eases my nervous feeling while having face-to-face communication with others and I can express myself confidently by using the correct language expression", explanation of student X. They felt that the flipped classroom design made them less nervous because they had practiced themselves with the language before they entered the class. Besides, using a mobile application atmosphere for interaction with their college mates and lecturer, allow them to consider the comments and responses given without the feeling of pressure in making an immediate reply. They have their own space and time to provide a proper opinion by using a correct language expression in the correct situation. As mentioned by student Z, "I feel nervous about speaking in class, but MSA allows me to practice using the language expression for the speaking practices by recording my thought in a non-face-to face scenario before I enter into the class and have a face-to-face communication".

Now we move to the results, based on the data analysis, for RQ2.

RQ2: How effective is the use of the mobile application in the flipped classroom language learning in supporting students' lifelong learning and non-cognitive skills?

The mobile learning app is ubiquitous, whereby users can use it at any time and anywhere according to their preferences. It is effective to utilize their free and leisure time with their small size and specialties. The effectiveness of the app is measures through the participants' overall perception of MSA's usability such as ease of use, content, quality of the time used, functionality, and the influences of mobile application in the flipped classroom approach. Figure 2 below shows that, in terms of the aspect of students learning time, the effectiveness is 68.97%, respondents find MSA apps very effective whereas 18.97% of them find it effective. MSA becomes the most preferable learning tool when respondents feel more comfortable to use MSA compared to a reference book and other materials, now and for the future. In



terms of the aspect ease of use, the effectiveness is 77.6% of respondents find MSA apps very effective whereas 17.2 % of them find it effective, while 5.2 % of them find it somewhat effective. MSA eases respondents' day-to-day life when it is considered as a referral for them when they need helps in using the correct language expressions. This is because MSA offers them diverse learning strategies that promote them to engage in the practice, drill, training, and reading the notes from the tutorial sections in the app. Moreover, they think that the use of MSA in flipped classroom learning has guided them toward a better understanding of the course topics. In terms of app content, the effectiveness is 68.97% of respondents find MSA apps very effective whereas 20.69 % of them find it effective. The app was designed for a heutagogy (self-determined learning) approach where users can use the MSA as NF2F for speaking skills training because it was hard for them to find a partner for F2F practices. In terms of effectiveness, almost 75.86% of respondents find MSA apps very effective whereas 20.70 % of them find it effective, while 3.44 % of them find it somewhat effective. The respondent speaking performance was recorded before and after the app had been used in the implementation of a flipped classroom. Therefore, learners able to detect the improvement of their speaking skills performance to cater on the aspect of the functionality, the effectiveness of the MSA usage towards the language learning is almost 68.97% of respondents find MSA apps very effective whereas 17.2 % of them find it effective, while 5.2 % of them find it somewhat effective and 1.72% respondent was neutral. Overall, they think the use of MSA in a flipped classroom is more effective (74.14%) and an efficient way to learn for lifelong learning, whereas 22.41 % of them find it effective, while 3.44 % of them find it somewhat effective.

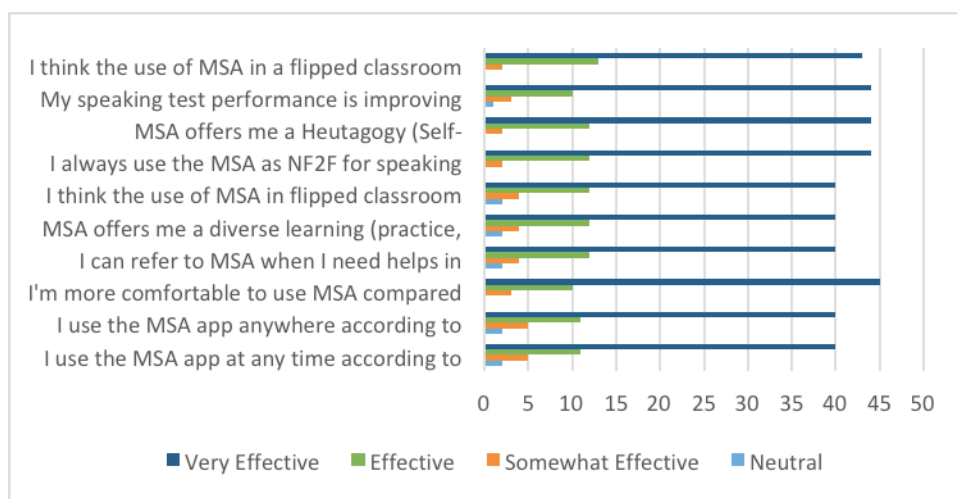


Figure 2: Respondent opinion about the effectiveness of mobile application in the flipped classroom language learning in supporting students' lifelong learning

Table 2 below, revealed the answer to the other part of MSA's effectiveness in the flipped classroom language learning in supporting or nurturing students' non-cognitive skills in language learning? There are four non-cognitive skills integrate into this current study as stated earlier. From the survey, researchers found that learners have more grit/courage to participate in Q & A session in a flipped classroom, in a learner's non-cognitive perseverance with the means score 3.70 and 0.529 s.d. Learners participated and engaged them-self more in a group discussion in the flipped classroom with the means score of 3.72 and 0.518 s.d. in learner's non-

cognitive behaviour. Learners also feel confident to share their opinion in front of the group members and others (means score of 3.71 and 0.526 s.d.), and they can cooperate with the other group members because they have the confidence to talk with the other group members after using the MSA (means a score of 3.72 and 0.518 s.d.) in learners' non-cognitive social skills. The last non-cognitive skills developed through this process of learning is the 'academic mindset' when they feel that the tutor/facilitator cares about them when he/she is available and respond online via Telegram/WhatsApp with the means score of 3.76 and 0.466 s.d.

Items	Mean	STD
I feel that I have more grit/courage to participate in the Q & A session in a flipped classroom.	3.71	0.526
I DID NOT participate ACTIVELY in a group discussion in the flipped classroom	1.79	0.405
I feel confident to share my opinion in front of the group members and others.	3.71	0.526
I can cooperate with the other group members because I have the confidence to talk with them after using the MSA.	3.72	0.518
I feel that the tutor/facilitator cares about me when he/she is available and respond online via Telegram/WhatsApp.	3.76	0.466

Table 2. Descriptive statistics of the use of the mobile application in the flipped classroom language learning supporting or nurturing students' non-cognitive skills in language learning

### Significance of the study

It is hoped that the results obtained from this current study will help educators and language learners in identifying their own suitable and effective teaching and learning styles strategy to be applied in and out of the classroom in a face-to-face or non-face-to-face context. Next, the results from the study, exposed a heutagogy learning style in language learning so that learners will be ready for more futuristic styles of learning in the future. Through this current study, it is also highlighted the advantages of M-Learning; the use of the mobile application 'My Speaking App'(MSA) which was designed and developed purposely for NF2F speaking practices in a 'Flipped Classroom' which focussed on the students centered (F2F) in the language class. Finally, the great impact of the integration of mobile application as a learning tool in a Flipped Classroom could also nurture the language learners' non-cognitive skills such as academic perseverance, academic behaviour, social skills, and academic mind-set.

### Conclusion

In conclusion, the research findings revealed that MSA is an effective teaching and learning tool in a 'Flipped Classroom', and has positive potentials to support student's lifelong learning and non-cognitive skills in language learning. Smartphones with its unique features of being a small size, the capacity of recording audio and video, etc. become the most popular tools for learning in leading to the era of the 4.0 Revolution. Practicing the speaking skills using the smartphone that complements the human beings' interaction with the integration of artificial intelligence, a cyberlogy,

heutagogy, and paralogy creates a new scenario that shifts the conventional ways of language learning to a new transformation mode. Flipping a language class in Education 4.0 offers a virtual class without the presence of a lecturer, replacing language books or other hard copy materials; MSA offers offline usage, with its compatible learning package ease and motivated the language learners to learn the language. Additionally, the whole process of integrating the mobile application into the 'Flipped language classroom' nurtured the learners' non –cognitive skills in learning the language unconsciously. Hence, MSA is innovated and developed in a simplified way, informative with guidance and practices which support an interactive self-learning environment that eases the language users. It can be concluded that MSA could be the driver for 4.0 Education in Flipped language Classroom, as it caters to the influence factors of 4.0 Education elements.

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***Developing Creativity through Design-by-Analogy with Word Trees***

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**Abstract**

This study aims to understand the effect of the Design-by-Analogy (DbA) WordTree method, proposed by Linsey (2007), on the individual's development of creativity. The method was introduced to two training workshops using near-sources and to two others using far-sources. The Creativity Assessment Packet (CAP) and the Kaufman Domains of Creativity Scale (K-DOCS) were used in the pre-test and the post-test for the participants, who were 100 students of a university. The progress of each participant's creativity was examined. Results reveal that the participants' domain-general creativity and domain-specific creativity both largely rose after taking the whole training workshops. The ideas generated in the workshops also show that the far source and the near-source are equivalent in enhancing idea generation by analogy. Future study should conduct controlled experiments to compare the method with others.

**Keywords:** creativity, design education, word trees, design-by-analogy

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Analogical thinking plays a vital role for designers to obtain inspiration in product design and development (Keane, 1987; Dahl & Moreau, 2002). Design-by-Analogy (DbA) is a method that helps designers generate creative solutions by searching for analogs which are similar to the target problem and blending the problem and analog (Linsey, 2007). In the process, we need not only some structures to map the problem and analogies (Larkin, McDermott, Simon & Simon, 1980), but also some principles to select potential sources of analogy.

Many analogical principles for source selection focus on the structural similarity between the target and source. Literature recommends that the best sources of inspiration for creative breakthroughs are those who have higher structural similarity and lower surface similarity to the target problem (Gentner & Markman, 1997; Ward, 1998; Han, Shi, Park, Chen & Childs, 2018). However, it is still arguable that how similar (or dissimilar) a source should be to the target being mapped (Chan, Dow & Schunn, 2015).

A new approach, namely, DbA-WordTree, has demonstrated the advantages for generating creative solutions in the domain of engineering design (Linsey, Markman & Wood, 2008). However, how effective is the approach to develop individuals' creativity remains a question. The present study is an attempt to find out how effective is the approach to develop general creativity.

## **Literature Review**

### **Design-by-Analogy**

Analogy is a promising tool for innovation by mapping from the inspiration source in a domain to the target problem in the other domain to make sense of the solution (Gentner, 1983). The former is typically called the source of the analogy, and the latter the target. For example, children can learn the concept of the atom by using the solar system as the source, because the structure and behaviour of an atom are similar to that of the solar system.

In the cognitive process model for analogical reasoning, the process of human reasoning by analogy can be divided into four steps. Before a target problem is given, the person has encoded some source analogues and store them in memory. Once the problem is given, the person retrieves an appropriate analogue from memory. The next step is to find a mapping between the problem and the source. Finally, the person generates solutions by finding the inference based on the mapping.

Professional designers often use analogies at the ideation stages of design processes (Casakin and Goldschmidt, 1999; Christensen & Schunn, 2007). The use of analogy to assist designers in identifying and developing analogies, including examples, related cases, scenarios, and connected experiences, to solve design problems is called DbA (Linsey, 2007; Goldschmidt, 2001). How to identify and develop the best sources of inspiration for creative breakthroughs is a great challenge. Empirical studies reveal the principles of a better source are still controversial (Fu, Chan, Cagan, Kotovsky, Schunn & Wood, 2013).



Some studies assert the better sources for creative breakthroughs should be structurally (in terms of such relationship of object features as mechanically, spatially, and causally) similar but superficially (in terms of such object features as shape, material, and temperature) dissimilar to the target (Gentner & Markman, 1997; Ward, 1998; Holyoak & Thagard, 1996; Ward, 1998). More specifically, other research claims the better sources for novelty, quality, and flexibility of ideation should be conceptually far from the target sources (Dahl, D. and Moreau, P. 2002; Chan, Fu, Schunn, Cagan, Wood & Kotovsky, 2011; Chiu & Shu, 2012). In contrast, some studies find there are no obvious benefits from conceptually far source for creative thinking (Fu, Chan, Cagan, Kotovsky, Schunn & Wood, 2013; Chan & Schunn, 2014; Dunbar, 1997) or the effects of far and near sources have equal advantages (Malaga, 2000).

## **Word trees**

A word tree illustrates multiple parallel sequences of words to analyse unstructured texts. Based on the visualization of abstract tree structures, it is used to show which words most often follow or precede a target word or to show a hierarchy of terms. There are many tools developed in an interactive form of the keyword-in-context (KWIC) technique (Wattenberg & Viégas, 2008). The word tree tools developed by Fernanda Viégas and Martin Wattenberg (see <http://hint.fm/projects/wordtree/>) and Jason Davies (see <https://www.jasondavies.com/wordtree/>) are typical examples. The advantage of these interactive tools is threefold: (1) easy to spot repetition in the contextual words that follow a phrase, (2) clear to display the natural tree structure of the context, and (3) easy to explore the context further.

A novel approach, DbA-WordTree method, has been developed by Julie Linsey (2007) to systematically identify far sources and find a mapping between the source and the target. Since enhancing analogical retrieval requires that design problems are represented in multiple forms ranging from very domain-specific to domain-independent to provide a variety of related effective retrieval cues (Chan, Dow & Schunn, 2015). A tree structure or tree diagram is a way of representing the hierarchical nature of a structure in a graphical form. It is named a "tree structure" because the classic representation resembles a tree, even though the chart is generally upside down compared to an actual tree, with the "root" at the top and the "leaves" at the bottom.

All the tree elements are called "nodes," and the lines connecting elements are called "branches". Nodes without children are the leaves. Every finite tree structure has a member that has no superior; this member is the root.

The WordTree method is a promising tool because it can create multiple linguistic representations by focusing on alternative functional representations. An experiment in workshops using the DbA-WordTree method shows that designers can identify a greater number of analogies and alters their search approaches leading to more unusual analogous solutions being located (Wattenberg & Viégas, 2008).

The process of the workshop comprises five steps:

- (1) List key problem descriptors, which are single-word action verbs derived from the functions and customer needs in the problem statement.

- (2) Re-represent the key problem descriptors using WordTrees through both the team's knowledge and a large lexical database of English, WordNet (see <https://wordnet.princeton.edu/>). The team uses rotational brainwriting to create sticky note WordTrees, and using WordNet to retrieve additional keywords. Combining both the results to identify and search potential analogies and analogous domains, and create multiple problem statements.
- (3) Generate ideas using WordTrees and rotational brainwriting.
- (4) Summarize results and continue with the design process.

Although the WordTree method is a powerful approach for the re-representation of design problems and the generation of creative ideas in the engineering domain, how it works in the context of domain-general is worth of study.

### **Creativity assessments**

Human creativity can be developed by training (Davies, 2011). If a group of participants is trained by the DbA-WordTree workshop, how their creativity changes should be measured. There are many tools for measuring cognitive aspects of creativity with certain reliability and validity. The cognitive aspects refer to basic thinking processes that lead to creative production, which include identifying, defining and redefining the problem, selective encoding (Barbot, Besançon & Lubart, 2011).

In cognitive creativity measurements, the Creativity Assessment Packet (CAP) can measure the cognitive thought factors of fluency, flexibility, elaboration, originality, vocabulary, and Comprehension (Williams, 1967; Williams, 1980). It is useful for the workshop which involves identifying and searching for action verbs.

Aside from the rather domain-independent approach to measuring cognitive creativity, there are some domain-specific assessment tools. The Kaufman Domains of Creativity Scale (K-DOCS) is a relatively new measure for assessing domain-specific creativity in five domains: everyday, scholarly, performance, science, and art (McKay, Karwowski & Kaufman, 2016; Kaufman, 2012). These five domains are consistent with the Big Five personality factors, extraversion, agreeableness, conscientiousness, emotional stability, and openness to experience. That means K-DOCS is not only a measurement tool for cognitive aspects but also conative aspects.

K-DOCS is a 50-item self-report measure assessing the five domains. The instructions ask the participants to compare to people of approximately their age and life experience, how creative would they rate themselves for each of the items. Items were rated on a 5-point scale (much less creative to much more creative). K-DOCS is suitable for specifying which domain the participant's creativity progresses.

Besides, product-based assessment is required for assessing the achievement of a creative product resulting from workshops. Typically, these products are evaluated by experts of the domain using the Consensual Assessment Technique (CAT) (Amabile, 1982). The requirements of CAT include (1) judges should all have had some equivalent experience with the domain in question, (2) the judges must make their assessments independently, (3) the judges should rate the products relative to one another, rather than rating them against some absolute standards they might hold,

(4) each judge should view the products in a different random order (Hennessey, Amabile & Mueller, 2011).

Given the literature review, the present study focuses on the relationship between the DbA-WordTree method and the individual's development of creativity. Hypotheses for the training include (1) the participant's domain-general creativity makes much progress after training, (2) the participant's domain-specific creativity makes much progress after training, and (3) the far-source is more likely than the near-source to enhance the participant's ideas generated by analogy.

## Methods

### Participants

Participants of the workshops were 122 second-year students from colleges of mechanical and electrical engineering (51), electrical engineering and computer science (9), engineering (23), management (24), design (12), and humanities and social science (3). They were randomly divided into 30 groups. Each group consists of four to 6 participants, who come from at least two different colleges.

### Instruments

The participants' cognitive creativity was assessed using K-DOCS and CAP. The revised Chinese edition CAP (Wang & Lin, 1986), published by Psychological Publishing Co., Ltd, Taiwan, was used. The K-DOCS was translated into Chinese edition. The participants' product-based creativity was assessed by three experts who have three-month training of the DbA-WordTree method in a CAT way. The items of the assessments were to determine the following indexes:

- (1) Ratio of valid nodes ( $R_n$ ) = (the number of the nodes that indicate the clue for exploring or mapping the sources to the target) / (the number of all the nodes of the word tree)
- (2) Ratio of valid analogies ( $R_a$ ) = (the number of the analogies that are related to the valid nodes of the word tree) / (the number of all the analogies generated in a workshop)
- (3) Ratio of valid ideas ( $R_i$ ) = (the number of the ideas that mix the analogous source to solve the target problem) / (the number of all the ideas generated in a workshop)

In addition, each workshop used specific worksheets to help participants focus on the design task given along with the DbA-WordTree method. Each worksheet contained the instruction, the sub-tasks in sequence, and background layout.

### Procedures

Before attending the workshops, all the participants took the K-DOCS and CAP as the pre-test. When completing all workshops, they took the K-DOCS and CAP again as the post-test. Two workshops used the far-sources and the other two used the near-sources. All of the tasks were selected from (Van Gundy, 2005), which collected many analogical thinking activities. Either the far-sources (i.e., the unrelated stimuli of inspiration) or the near-sources (i.e., the related stimuli of inspiration) were

available in various activities. Table 1 shows the tasks of the four workshops. The activities ‘#70. What’s the Problem?’ and ‘#82. Brain Purge’ were used for workshops with near sources, whereas the activities ‘#21. Tickler Things’ and ‘#97. The Name Game’ were used for workshops with far sources.

The activity of each workshop contained two stages. In the word tree stage, each group was requested to complete a word tree using brainwriting for the initial problem given. Afterward, in the design stage, each group used their word tree as the structural guidelines to create ideas to solve the problem given.

Table 1: Tasks of workshops

Near sources		Far sources	
Workshop 1	Workshop 2	Workshop 3	Workshop 4
#70. What’s the Problem? Design a new tap dispenser.	#82. Brain Purge Design a new peeler.	#21. Tickler Things Design a method to recruit more club members.	#97. The Name Game Design a new mosquito trap.

In each activity, an initial problem was given. The original process of each activity in (Van Gundy, 2005) was adapted to follow the five steps of the DbA-WordTree method, as described earlier. For each group, the sequence of each workshop activity was randomized to avoid the bias of the learning effect. Once all the workshop outcomes had been collected, the three judges examined the word trees created by each group in every workshop.

For instance, the activity for the first workshop is ‘#70. What’s the Problem?’, adapted from the Synectics of William Gordon (1961). The objective was to help the participants reverse their natural tendency to exhaust all conventional solutions and then declare they have run out of ideas. The target problem for each group was to design a new tap dispenser by following the steps:

- (1) Describe a general, abstract problem (how to remove unpleasantness and avoid worry) without revealing the target problem (how to design a new tap dispenser).
- (2) Use word trees to generate ideas for the abstract problem.
- (3) Reveal the real problem and instruct the group members to examine the ideas for the two abstract problems and use them as stimuli for new ideas.
- (4) Write down any ideas on posters for evaluation.

## Results

Only 100 participants of 26 groups completed the whole process, from the pre-tests, the four workshops, to the post-tests. Figure 1 illustrates example completed by a group in the first workshop. The word tree, as shown in Figure 1(a), is developed for the abstract problem about removing unpleasantness. The root is “to travel,” which has two children nodes, “to drive” and “go camping”. These two nodes respectively have two leaves. For example, the leaves of the node, “to drive”, is “to turn” and “apply brake”. When the key verbs for the abstract problem have been obtained, each of them is related to an object that most represents the key verb. For example, “Ferris wheel” is chosen as the representative of the verb, “to turn”. Afterwards, each object is seen as the inspiration source to develop ideas for solving the real problem,

“designing a new tap dispenser”. The sketch, as shown in Figure 1(b) depicts a tap dispenser using the Ferris wheel as source of DbA.

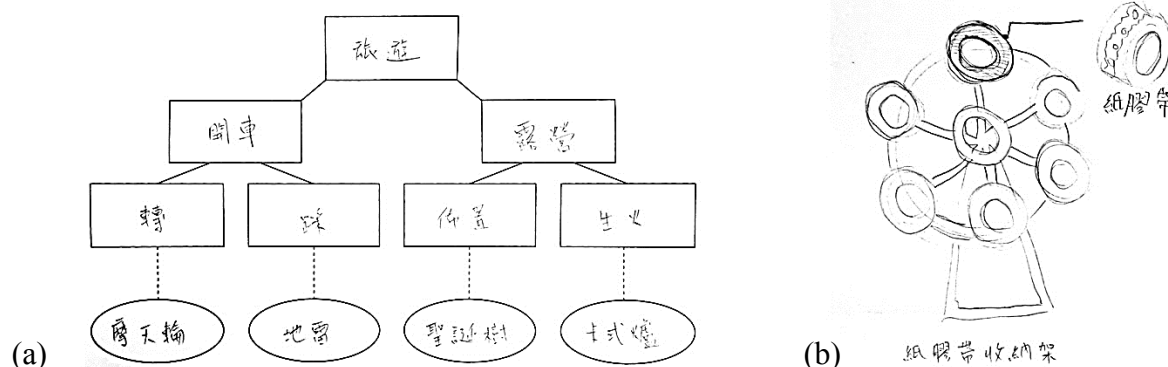


Figure 1: Example worksheets completed by a group in workshop 1

### Progress of creativity

The pro-test with the pre-test was compared to determine the effect of the training through four workshops on the participants' creativity. First, the participants' pro-test of CAP made extremely significant progress (24.3%,  $p < .01$ ), as shown in Table 2. The greatest progress made was the elaboration factor (113.4%) while the other factors, originality (30.3%), fluency (15.8%), and flexibility (13.2%) also had relatively large progress.

Second, the comparison of the pro-test and the pre-test was displayed in Table 3. Except for the creativity in the everyday domain, all the others had extremely significant growth ( $p < .01$ ). Both domains of the performance (13.9%) and science (12.9%) have much progress, though the progress of Scholarly was much lesser (3.2%). Still, the domain of art increases (9.6%,  $p < .05$ ).

Table 2: Pre-test and pro-test of CAP

Factor	Assessment	N	M	SD	Progress	t-value
Fluency	Pre-test	100	10.10	3.17	15.8%	-4.564**
	Pro-test	100	11.70	1.69		
Comprehension	Pre-test	100	24.88	8.52	1.6%	-.373
	Pro-test	100	25.27	6.06		
Flexibility	Pre-test	100	6.65	2.18	13.2%	-3.036**
	Pro-test	100	7.53	1.91		
Originality	Pre-test	100	17.03	7.21	30.3%	-5.461**
	Pro-test	100	22.19	6.11		
Elaboration	Pre-test	100	9.30	7.39	113.4%	-9.930**
	Pro-test	100	19.85	7.63		
Vocabulary	Pre-test	100	13.87	6.43	9.1%	-1.569
	Pro-test	100	15.13	4.80		
Total	Pre-test	100	81.83	27.35	24.3%	-5.730**
	Pro-test	100	101.71	21.35		

\* $p < .05$ , \*\* $p < .01$

Table 3: Pre-test and pro-test of K-DOCS

Domain	Assessment	N	M	SD	Progress	<i>t</i> -value
Everyday	Pre-test	100	3.24	.66	9.3%	-1.401
	Pro-test	100	3.54	.66		
Scholarly	Pre-test	100	3.78	.62	3.2%	-3.229**
	Pro-test	100	3.90	.60		
Performance	Pre-test	100	2.67	.88	13.9%	-2.788**
	Pro-test	100	3.04	.99		
Science	Pre-test	100	2.95	.88	12.9%	-3.176**
	Pro-test	100	3.33	.84		
Art	Pre-test	100	3.24	.90	9.6%	-2.416*
	Pro-test	100	3.55	.89		

\* $p < .05$ , \*\* $p < .01$

### Creativity of ideas

Independently examining each group's DbA-WordTree per workshop, the three judged identify the number of nodes, analogies, and ideas that were related to the target problem to calculate the ratio of valid nodes ( $R_n$ ), the ratio of valid analogies ( $R_a$ ), and the ratio of valid ideas ( $R_i$ ). Table 4 exhibits the difference between these ratios of the near-source workshops and far-source workshops. Results show that the far-source workshops had a significant higher  $R_a$  than did the near-source, though the difference was trivial (3.2%,  $p < .05$ ). The other two ratios,  $R_n$  and  $R_i$  between the near-source and far-source workshops were not significantly different.

Table 4: Pre-test and pro-test of K-DOCS

Item	Source	N	M	SD	Change Rate	<i>t</i> -value
$R_n$	Near	26	3.24	.66	9.3%	0.70
	Far	26	3.54	.66		
$R_a$	Near	26	3.78	.62	3.2%	0.03*
	Far	26	3.90	.60		
$R_i$	Near	26	2.67	.88	13.9%	0.09
	Far	26	3.04	.99		

\* $p < .05$ , \*\* $p < .01$

### Discussions and Conclusion

The first two hypotheses are supported, but the third one is not supported. As the results of the CAP showed that the participants' domain-general creativity largely rose, the first hypothesis is not rejected. Also, since the participants' domain-specific creativity mostly rose to a certain degree, the second hypothesis is not rejected. It is noticed that the present study adapted the DbA-WordTree method of (Linsey, 2007). It did not involve using WordNet database, and its activities were designed for the laymen instead of specific professionals. Still, the groups were of cross-domains instead of the engineering domain. Despite the adaption, the results supported the findings of (Linsey, 2007; Linsey, Markman & Wood, 2008; Linsey, Markman & Wood, 2012), and recommend that the method can enhance the participants' creativity.

After the training by the four workshops, the participants' creativity assessments mostly rose. Either the far-source or the near-source contributed to developing the participants' cognitive and conative creativity to a certain extent. This raises a question on the usefulness of even random sources as stimuli for DbA. Future research needs some controlled experiments to compare the effect of the DbA-WordTree method and other methods.

The third hypothesis is rejected. Although the far source was more likely than the near-source to generate valid analogy, yet the far-source does not have an advantage over the near-source in developing valid word trees or valid ideas. The results were consistent with (Malaga, 2000), where the effects of the far-source and the near-sources have equal advantages.

In (Linsey, 2007; Linsey, Markman & Wood, 2012), all the participants were engineering students. In contrast, the majority of participants in the present study came from engineering-related colleges (83, 68%), and the rest were from non-engineering colleges (39, 32%). The effect of the cross-disciplinary grouping on the individual development of creativity and the collaborative idea development is worthy of future study.

To sum up, the major advantage of the DbA-WordTree method may lie in that fact that it requires the participants to use action verbs for identifying and mapping more potential concepts towards the target design problem. This leads them to better control divergent thinking to move forwards the target.

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***The Comparison of Industrial Characteristics of Rajamangala University of Technology Thanyaburi Students***

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**Abstract**

This research was to the comparison of industrial characteristics of Rajamangala University of Technology Thanyaburi students in Thailand. The sample group of this research, selected using stratified random sampling, consisted of 492 students of Rajamangala University of Technology Thanyaburi. The research instrument was 5 points Likert scale questionnaire. The data were analyzed using t-test, F-test and ANOVA. The research revealed that 1) the comparison of industrial characteristics of students analysis classified by gender using t-test found that there was no difference in industrial characteristics between 2 genders with an insignificant of .05, 2) the comparison of analysis classified by working experience during study that students who did not have any working experience during study and students with work experience had the different industrial characteristics level with a significant of .05, and 3) the comparison of analysis classified by grade point average (GPA) using an F-test to determine the variance. It was found that students with different GPAs had at least 1 pair of industrial characteristics at a different level with a significant of .05. The researcher tested the difference of each pair using Scheffe' Test and found that there were 2 pairs at a different level: (1) a group of student which had a GPA 2.51 - 3.50, and (2) a group of student with a GPA greater than 3.50 had a higher average than a group of student with GPA lower than 2.51 with a significant of .05.

Keywords: industrial characteristics, university, student

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## Introduction

Thailand is in the midst of dynamic challenges in terms of transforming itself from a developing to a developed country. To increase a competitiveness ability to become a stable and sustainable country, Thailand has to develop its research strategy, sciences, technology, and innovation as well as to elevate the labor skills that fit the current and future industry needs.

Thailand has struggled in labor skills quality in every aspect, for instance, knowledge, skills, work attitude, ethics, and morals. Many people do not respect others' rights and public interest. Regarding the population structure, Thailand has become an aging society which has caused a shortage of labor since 2015. Other than that Thailand's education quality to improve workers' knowledge and skills does not match the industry needs, this problem has caused low labor quality.

The importance objective of human capital development is to foster the labor skills of people who are entering the industry and who are in the industry at the present under the limitation of resources and timeframe. This requires support from the corporate networks to promote the labor competency-based to fit with the industry needs in every sector. Therefore, it is critical to uplift the education quality in professional fields and the industrial characteristics of workers.

The Industrial characteristics development is to enhance the workers' social skills, intellectual, pertinacity, social interaction, and adaptation. These will let workers be able to solve undesirable behaviors during critical situations. To enhance the labor quality to match the industrial characteristics, it has to go through the education administration process of educational institutions by providing comprehensive training that covers social and life skills in all areas. The education institutions have to consider the core social and life skills to facilitate the training that learners will be able to apply their respective skills in their daily life. The essential social and life skills consist of (1) honesty, (2) discipline and punctuality, (3) responsibility, (4) knowledge acquisition, (5) pertinacity, (6) thrifty, (7) security, (8) creativity, (9) teamwork, and (10) public-minded (Labor Master Plan, 2016).

In terms of the industrial characteristics, learners can build up the characteristics in 2 methods: 1) learners can naturally learn from their experiences and role models. However, it is a non-directional learning method without timeframe and it is too slow to learn, and 2) by developing a training process to encourage learners through the collaborative learning methods by using different activities that allow learners to practice, discuss, exchange their opinions and experiences, show their thoughts, and aspects that relevant to their experiences among the learning group to build new knowledge which they can apply it to their life. This will support learners to be ready for entering the competitive industry especially in the high technology industry that needs multi-skills workers with the desirable industrial characteristics that suit the industry. Therefore, the industry characteristics are critical factors that students who will enter the industry must-have (Ministry of Education, 2009).

However, education institutions shall focus on the education administration quality and improve the education administration standard to gain acceptance from the industries in Thailand and other countries and to shape students' industrial

characteristics that meet the industry needs; hence, the study of industrial characteristics level will be a guideline to plan and formulate policies to enhance efficiency and effectiveness together with courses and activities design for students in the future.

### **Research objective**

To study the comparison of industrial characteristics of Rajamangala University of Technology Thanyaburi students in Thailand.

### **Population and Sample**

1. The population for the research was 4,184 of 4th-year students at Rajamangala University of Technology Thanyaburi who enrolled in the academic year 2018 (Data from 7th August 2018, Office of Academic Promotion and Registration, Rajamangala University of Technology Thanyaburi, 2018)

2. The sample size was set by using the Rule of Thumb. Hair et al. (2010) mentioned that the sample size in multivariate research should be 10 - 20 samples per 1 variable. However, this research studied causal relationships of multivariate with a Structural Equation Model and there were 17 causal relationship variables in this research; hence, the sample size for this research was 10 participants per 1 variable. Therefore, the participants in this research were at least 340 students. To make a parameter estimation more accurate, the researcher adjusted the number of participants to 500 by using stratified random sampling. The participants came from 9 faculties and 1 college (50 participants per 1 faculty/college). However, the researcher could collect data from 492 participants in the field.

### **Instrument**

The research instrument used for this research was a 5-rating scale industrial characteristics test.

### **Data collection**

The data were collected by mail as well as by the researcher.

### **Data analysis**

The data were analyzed using frequency, percentage, mean, standard deviation. F-test and ANOVA were used for comparing the average of industrial characteristics level which was divided into gender, faculty, work experience during study, grade point average (GPA), and guardian profession.

### **Results**

The result from industrial characteristics level analysis divided into 2 parts: (1) the result of industrial characteristics level analysis, and (2) The result of the comparison of students' industrial characteristic classified by variable;

1. The result of industrial characteristics level analysis: it was found that the level of the industrial characteristics of students was high with an average of 3.76. The item with the highest average (3.90) was: students attempted to complete and submit the tasks from lectures on time, and the next item (3.89) was: students had the opportunities to help others without asking in return, followed by students were able to work as a team gladly (3.83).

2. The result of the comparison of the average level of students' industrial characteristic analysis classified by variable;

2.1 The result of the comparison of the average level of industrial characteristics of Rajamangala University of Technology Thanyaburi students analysis classified by gender using t-test found that there was no difference in industrial characteristics between 2 genders with an insignificant of .05.

Table 1: The result of the comparison of the average level of industrial characteristics of students analysis classified by gender

gender	N	M	SD	t	Sig.
1. men	188	3.80	0.52	1.137	0.256
2. woman	297	3.73	0.69		

2.2 The result of the comparison of the average level of industrial characteristics of Rajamangala University of Technology Thanyaburi students analysis classified by working experience during study using t-test found that students who did not have any working experience during study and students with work experience had the different industrial characteristics level with a significant of .05. It showed that the industrial characteristics of students who did not have any working experience were higher than students who had the working experience during study.

Table 2: The result of the comparison of the average level of industrial characteristics of students analysis classified by working experience during study

working experience during study	N	M	SD	t	Sig.
1. none	270	3.83	0.63	2.924*	0.004
2. work experience	211	3.66	0.62		

\*  $p < .05$

2.3 The result of the comparison of the average level of industrial characteristics of Rajamangala University of Technology Thanyaburi students analysis classified by grade point average (GPA) using an F-test to determine the variance. It was found that students with different GPAs had at least 1 pair of industrial characteristics at a different level with a significant of .05. The researcher tested the difference of each pair using Scheffe' Test and found that there were 2 pairs at a different level: (1) a group of student which had a GPA 2.51 - 3.50, and (2) a group of student with a GPA greater than 3.50 had a higher average than a group of student with GPA lower than 2.51 with a significant of .05.

Table 3: The result of analysis of the average level of industrial characteristics of students classified by grade point average (GPA)

the variance	SS	df	MS	F	Sig.
between the group	7.157	2	3.578	9.358*	.000
Within the group	186.993	489	.382		
total	194.149	491			

\*  $p < .05$ 

Table 2: The result of the comparison of the average level of industrial characteristics of students analysis classified by grade point average (GPA), two pairs

grade point average	M	lower than 2.51	2.51 – 3.50	higher 3.50
lower than 2.51	3.50	-		
2.51 – 3.50	3.79	2.29*	-	
higher 3.50	3.93	0.44*	0.15	-

## Conclusion

1. The result of industrial characteristics level analysis: overall, the university students had a high level ( $M = 3.76$ ) of the industrial characteristics. To consider 10 industrial characteristics, the researcher found that the majority of students had industrial characteristics. The highest level of characteristic was knowledge acquisition, public-minded, and teamwork which comply with Professional Graduates Production Strategy that requires graduates to have the knowledge, professional skills, soft skills, and work experiences. This also conformed to the study of Prapassorn Busaman (2017) who studied the knowledge acquisition behavior and the guidelines for knowledge acquisition behavior development which showed that knowledge acquisition was one of the important indexes in the industrial characteristics that students shall have, followed by public-minded. Transferring the public-minded behavior from education institutions and media to students had a positive correlation with students' public-minded with a significant of .01, and the 3rd index was teamwork which conformed to the research of Chalida Chanwichit and Viroj Jadesadalug (2017) who found the teamwork was an index that important to work efficiency in private and public organizations.

2. The result of the comparison of the average of students' industrial characteristic analysis classified by gender, work experience during study, and GPA. In terms of gender, it was found that the level of the industrial characteristics was not different between the 2 genders. This could be assumed that students' gender did not have a direct influence on the industrial characteristics. However, it was found that the work experience during study and GPA influenced the industrial characteristics. Students who did not have the work experience during study had a higher industrial characteristics level than students who had work experience during study with a significant of .05 as students with work experience might have problems during work or unpleasant working conditions.

## **Recommendation**

The analysis of other factors influencing social skills such as Information and Communication Technology (ICT), teamwork, knowledge acquisition, critical thinking, discipline, organizational loyalty, and public-minded should be further studied.



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***A Study on the Application of Field Trips in English Teaching in Vietnam:  
Effectiveness and Solutions***

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**Abstract**

It has been years since the dawn of field trips which have been widely used as an effective tool in foreign language teaching and learning. With their advantages, field trips perform the functions of improving the language as well as social skills for learners. To find out the positive effects of field trips, the paper focuses on giving an overview of field trips, analyzing the purposes of field trips in English teaching. Concurrently with the theoretical analysis of field trips, the research deals with the application of field trips in Tourism English and General English teaching in Vietnam. Based on in-depth interviews and a quantitative research through a survey among 220 students from 2 separate universities in Vietnam, the research has drawn out the major effects including improving students' self-confidence, students' language skills and soft-skills, students' competence in applying theory to reality, students' language learning motivation that field trips have had on language learners, on the basis of which the recommendations and suggestions to improve students' language skills are suggested.

Keywords: field trips, reality of field trips application, solutions to field trips application

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## Introduction

The global context has rapidly increased demand for English in any socio-economic fields. In an attempt to find the possible ways to improve their students' language skills, educators have tuned in a variety of possible methods of which field trips are considered to be one of the best solutions that bring their students to the real environment of language learning. With the purposes of finding the best solutions to applying field trips to language teaching and learning, the paper aims at finding the answers to the three following researching questions:

- (1) What is the field trip and how is it applied in foreign language teaching and learning?
- (2) What are the effects of field trips application in Tourism English and General English teaching in Vietnam?
- (3) What are the possible ways to applying field trips in foreign language teaching in Vietnam?

## Literature review

### Overview of field trips

The concept of field trips have been mentioned in education for a long time. Historically modern day field trips have their origin in Europe. According to Eugen Raph Brady (1972), prior 1900 European students and teachers were involved in such trips. Dessy Utami (2014) states that the field trip is a technique to provide students with opportunities to have direct experience out-of-school life. In addition, Jordan (2014) states that field trips technique can extend the resource available to students in the classroom. They expand learning by giving the students access to the real thing. They illustrate and permit students to experience with what they have learnt.

Atyeo (1939) emphasizes that field trips include any visit to an out-of-school setting and traditionally they are categorized in one of the three ways: academic, non-academic, and extra-curricular. Krepel and Du Vall (1981) define field trips as the trips which training institutions organize and implement to achieve certain educational purposes. Also according to these authors, these field trips bring students to new learning environment with tangible learning materials which they can "touch", "feel", observe, and get involved in.

From the mentioned above, field trip can be understood as a kind of a visit that is implemented in the environment out of the 4-walled classroom. Physically, field trip is any activities organized outside the regular classroom. With respect to purposes, field trip performs the function of a simulating activity to achieve a certain goal not effectively reached by any other means. Let's take a lesson of hotel reservation for an example. To realize the objective of the lesson, there is no other solution better than taking students to a hotel where students are able to "touch" the knowledge in the roles of receptionists and tourists. Similarly, when learning about business design, students will conduct their assignment better if a site visit to a company is taken instead of any other means. With those lessons, if students are not given an opportunity of experiencing it, the lesson's objectives are difficult to be achieved.

## **Field trips in English teaching**

Like in many other fields, field trips in English teaching have become an effective tool which have been widely applied in many countries since its initial appearance.

Dessy Utani (2014) considered field trips as the most of the effective device of English teaching and learning, as it gives both adventure and experience to students. Hughes and Moore (2014) state that field trips provides possibility for students to remember and to relate what have been studied and therefore it motivates them to learn.

From the statement, it can be assumed that the use of field trips will help students improve their English because this technique makes them happy to do the learning activities. The teacher and the students will have a fun class, and consequently it will improve students' achievement.

## **Types of field trips**

Field trips can be classified into many different types including:

On-campus trips during class time

Off-campus trips during class time

Day trips

Extended overnight trips

Semesters Abroad.

## **Purposes of field trips in foreign language teaching and learning**

It is obvious that the normal English teaching and learning processes occur in classroom, and it makes English language students get bored with the lesson. With the application of field trips in foreign language teaching, the burden of how to get the class much more attractive has been lessened. Many pedagogical scholars have proved this. Jordan (2014) emphasizes:

“Field trip technique can extend the resource available to students in the classroom. They expand learning by giving the students access to real thing. They illustrate and permit experience with what has been reading about, seen on television or computer software. Teacher include field trips in their units of study for this purpose. Field trips are linked to the classroom because they are contextualized within the classroom curriculum. Teachers choose from museum programs and exhibits to expand and reinforce desired concepts”

Some scholars agreed that field trips have built better relationships between students and students, between students and teachers. According to these educators, field trips also improve self-concept. Evan (1991) stated that students experienced being a leadership role, increased self-esteem, and strengthened relationships with peers as a result of a field trip.

Field Trips are also factors creating cooperative learning. As mentioned by Barbara Marras Mannar (1995) through field trips students may have a way of explaining things that seem to be more understandable to fellow students. It's also less

threatening to respond as a group rather than as an individual. Smith (1993) clarified that in a cooperative-learning situation, slower learners do much better than otherwise.

It can be seen that well-prepared field trips brings students a variety of benefits from providing them with exciting learning experiences to motivating them in the learning process.

In English teaching, field trips is considered a tool to bridge the gap between theory and reality.

*Firstly*, the speaking contexts which students take part in during the field trip is authentic. The field trip participants are given opportunities to take part in a real communicative situation where they are supposed to communicate with real people to achieve certain purposes.

*Secondly*, getting students out of brick-walled learning environment enables them to connect and correlate what they have learned from books to the real world so that much of theoretical knowledge is tested with reality.

*Thirdly*, it is possible to do so many different speaking activities with students when they are guided out of the classroom and into the world.

*Additionally*, the important thing that field trips bring to learners is excitement of new places, new cultures, new people to interact with , and new opportunities to practice the language.

### **Overview on the application of Field Trip Method to English teaching in Vietnam (an analysis of 2 Vietnam Universities: Sao Do University and FPT University)**

#### **Contents of textbooks and syllabus**

The success of field trips application much depends on the textbooks and syllabus. Texts books and syllabus must be designed in such a way that field trips can be applied.

To find out the reality of the contents of the textbooks and the syllabus, the research analyzes the foundation for preparing the textbooks and syllabus and takes an overlook at the training programs of Tourism English at Sao Do University and General English Training Program at FPT University.

#### **Foundation for preparing the textbooks and syllabus**

For Sao Do University, the textbooks of Tourism English are adapted based on the outcome standards of English (VSTEP), VTOS (Vietnam Tourism Occupational Skills Standards), based on the real requirements of travel companies.

As a modern university, FPT aims at providing students with adequate English for studying in their academic years and future jobs, the foundation for designing syllabus is that students reach the B2 level (CFR).

### **Training programs**

The training program of Tourism English includes 6 main courses: Tourism English 1, Tourism English 2, Tourism English 3, Tourism English 4, Tourism English 5, Tourism English 6.

***Tourism English 1*** : Gives an overview of tourism, tourism designation, travel companies, travel agencies, transportation in tourism, accommodation, tourism marketing, airlines

***Tourism English 2***: Focuses on English in Hospitality: English for hotel and restaurant staff.

***Tourism English 3***: Focuses on English used in talking about geographical location, natural conditions like climate, rivers, islands; English in customs, religions, festivals, handicraft villages, traditional food of Vietnam. Besides, students are trained with skills of making tour itinerary, making tour commentary, skills of making presentation.

***Tourism English 4***: Provides students with vocabulary and structures of geographical location, climate and attractions of Vietnam. In addition, students are trained with skills of making tour commentary and skills of tour guiding in famous destinations.

***Tourism English 5***: Focuses on making presentation and tour guiding skills in English. Students set up the tours in historical places, handicraft villages, natural destinations, tour guiding in coaches.

Similarly, FPT University English courses are divided in to 6 different levels from fundamental to intermediate. The training program focuses on 4 skills: Listening, Speaking, Reading, and Writings The language proficiency students are required to achieved is B2-C1 (CEFR).

From the above mentioned, it can be seen that the contents of the training courses of Tourism English and General English are suitable for field trips.

### **Summary of field trips in Tourism English and General English Teaching** **Field trips of Hospitality English**

#### **(1) Tasks**

- Students are given the tasks of solving the procedures in check in and check out activities in English ( Tourism English 1).
- Acting as waiters and waitresses in restaurants, taking orders, dealing with complaints (Tourism English 2)

#### **(2) Location**

- Paradise Cruise, Ha Long Bay, Quang Ninh

### ***Field Trips in Tourism English 3,4,5***

*Table 1: Field trips in Tourism English 3,4,5*

<i>Courses</i>	<i>Field Trip Requirements</i>
<i>English Tourism 3</i>	Tour guiding in Bat Trang ceramics
	Tour guiding in Dong Ho Folk painting
<i>English Tourism 4</i>	Tour guiding in Con Son Pagoda
	Tour guiding in Kiep Bac Temple
	Tour guiding in Chu Van An Temple
<i>English Tourism 5</i>	Designing and conducting tour of North West
	Designing and conducting tour of Vietnam Central

In the courses in Tourism English 3,4,5 students are required to use English to make tour commentary and conduct the tours. The table shows that in the training program, students are asked to complete 8 field trips in different locations.

To complete these, in the process of conducting the above mentioned field trips, the following steps have been applied:

(1) Preparation of language knowledge and knowledge of destinations: To complete the field trips, students are required to get adequate knowledge of languages. In additions, knowledge of destinations is what students need to prepare before conducting the field trips.

(2) Practice through video clips or powerpoint: After preparing necessary conditions of language and knowledge, students practice making presentations with the help of the video clips and PowerPoint.

(3) Conducting field trips:

- Giving tasks to groups: The class is divided into different groups. Each group completes its own tasks like logistics, tour guiding in coaches, tour guiding in destinations...
- In conducting the field trips, students are asked to complete the tasks of a tour guide.
- Assessment is based on the detailed criteria including the use of language, knowledge, and ways of dealing with situations in tour guiding.

### **Field trips in General English Teaching**

With its flexibility in the syllabus design, the General English courses are imbedded with the field trips whose contents are correspondent with the syllabus contents. Based on these, the author has conducted the field trips as mentioned below:

**English 1,2,3:** Field Trips in the Culture Center of US Embassy. On these mentioned trips, students are placed in pronunciation workshops, clubs, as well as Talk shows held at the center.

Additionally, during these courses some other trips have been also carried out such as the field trip in Hanoi old quarter, Museum of Ethnology...The tasks of these trips aim at forcing students to communicate with foreigners in the authentic environment.



*Table 2: Field Trip Proposal for Level 3 English students*

<b>FIELD TRIP PROPOSAL FOR ENGLISH-LEVEL 3</b>	
Place	: Mai Chau, Hoa Binh
Transportation	: Coach
Accommodation	: Home-Stay
Topic	: Unit 1: Make Small Talks Unit 7: Holidays and Traditions Unit 10: Beautiful World
<b>II. Objectives:</b>	
<ul style="list-style-type: none"> <li>- The students teams discover:               <ul style="list-style-type: none"> <li>+ Cultures and Traditions of ethnic groups in Mai Chau (Unit 1,7)</li> <li>+ Geographical features of the valley (Unit 10)</li> </ul> </li> <li>- Skills to be obtained:               <ul style="list-style-type: none"> <li>+ Language skills: Students revise all the vocabulary &amp; grammatical structures necessary to accomplish the given tasks.</li> <li>+ Other soft skills: Organizational skills (logistics of transportation, food, beverage, accommodation).</li> <li>-Socializing skills (organizing games and campfire activities).</li> </ul> </li> </ul>	
<b>III. Requirements:</b>	
Duties for each team:	
1. Taking part in all the team building activities of the trip (Games to revise vocabulary from TN3 & Academic Vocabulary in use)	
2. Making a video Introducing Mai Chau (its geographical features, traditions, customs...) Talking with group of foreigners about the related topics)	
<b>IV. Notes:</b>	
1. The students must submit a compilation video of the full activity, as it will be counted for their PRESENTATION grade.	
2. All students in each group MUST appear and speak on their videos.	
3. Date of video submission: One week after the trip.	
<b>PROPOSED ITENERARY</b> <b>FIELD TRIP HOA LAC CAMPUS- MAI CHAU</b> (02 days, 01 night) 6,7 April 2018	
<b>1st Day:</b>	
6:30 am	- Leaving the campus
9:30am	- Arrival in Mai Chau.
10:30-18:00 pm	- Students' activities
19:00 pm –22:00 pm	- Activities (games, music, dances)
<b>2nd Day:</b>	
8:00-11:00 am	- Students' activities
11:00 am	- Lunch
14:00 pm	- Leaving Mai Chau
16:00 pm	- Arrival in Hoa Lac
Submitted by:	

**English 4,5,6:** For the courses of General English levels 4,5,6, students are assigned with more willing tasks which require students to complete the video clips introducing the features of culture, history, gameshow...in popular tourist destinations. Also, during these outdoor programs learners' tasks are to conduct interview with foreigners based on the given topics.

Table 3: Field Trip Proposal for Level 6 English students

<b>FIELD TRIP PROPOSAL</b> <b>FOR ENGLISH LEVEL 6 STUDENTS</b>		
Place : <b><i>Paradise Cruise- Ha Long- Quang Ninh</i></b> Topics : <b><i>Introducing a tourist destination</i></b>		
<b>I. Objectives:</b> + To visit a real company: organizational structure, facilities, working style. + To practice skills of consecutive interpretation <i>Topic: Talk Show about a well-known tourist destination</i> <i>Topic: Introduction of a well-known tourist destination</i> <b>- Skills to be obtained:</b> + Speaking Skills: Students practicing speaking to introduce a famous tourist destination. + Other soft skills: <i>Organizational skills (logistics of transportation, food, beverage, accommodation).</i> <i>Socializing skills (meeting and talking with representatives of companies).</i>		
<b>II. Requirements:</b>		
Groups	Details	Speaking Task
<b>Part 1</b>		
<b>Group 1</b>	Ha Noi	Group 4
<b>Group 2</b>	Hai Duong	Group 2
<b>Group 3</b>	Bac Ninh	Group 3
<b>Group 4</b>	Quang Ninh	Group 1
<b>Part 2</b>		
<b>4 Groups</b>	<b><i>Participation in TALK SHOW with Representatives of PARADISE CRUISE</i></b>	
<b>PROPOSED ITINERARY</b> <b>FIELD TRIP HOA LAC CAMPUS- HA LONG</b> <b>(01 day)</b>		
<b>5:30 am</b> – Leaving the campus <b>9:30am</b> – Arriving in HA LONG <b>+ 9h:30-12:30 pm</b> : <b><i>Visiting LA VELA CRUISE</i></b> <i>Talking with La Vela Staff (cruise staff &amp; managers)</i> <i>La Vela Tour</i> <b>+ 13:00-14:00 : Lunch</b> <b>+ 14:00-16:00 : Students' activities</b> <b>8:30</b> – Arriving in Hoa Lac		
<b>Submitted by:</b>		

## Effectiveness of the Field Trips

To find out how students assess the field trips, a survey was conducted among 110 Tourism-majored students from Sao Do University and 110 students from FPT University randomly. 220 students have shown their agreement that the field trips are chances for students to use real English in real contexts related to the job requirements.

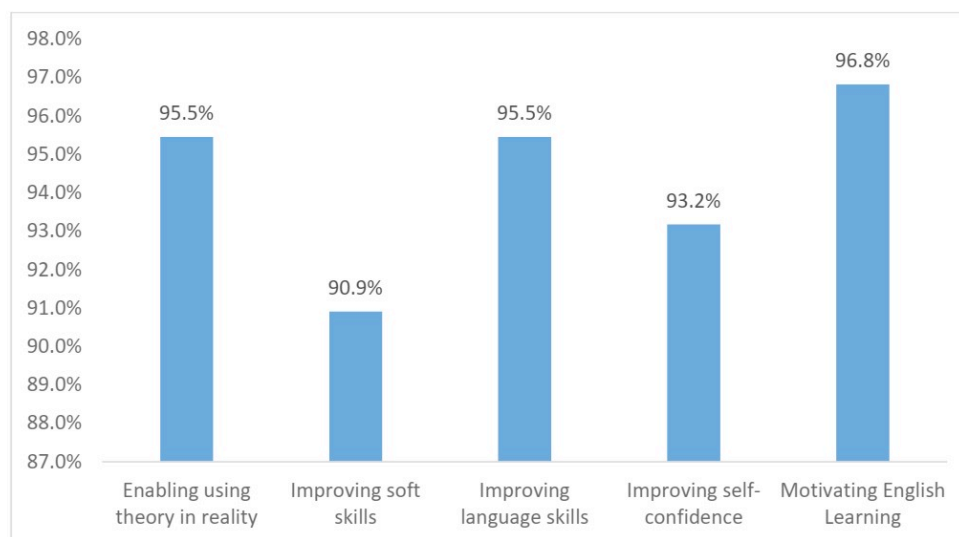


Figure 1: Students' satisfaction to field trips

From the figure, it is obvious that over 90% of the respondents were satisfied with the field trips' activities measured by the criteria of enabling using theory in reality, improving soft skills. Specially, 96.8% admitted that field trips inspired their learning process as well as improving language skills (95.5%). In more details, 95.5% of the surveyed shared the same idea that field trips activities assist students in their application of theory to reality. 90.9% belongs to improving soft skills, improving soft skills accounted for 95.5%.

In addition, to give a panorama on how students are satisfied with the field trips activities, the author has conducted in-depth interviews with 12 students who were randomly selected. Most of the interviewees share the similar comments on the benefits brought about by field trips activities. A majority of these students agreed on the creativeness, motivation, learning environment benefits that those outdoor activities have created.

"I think it's so good and useful for students, especially freshmen because they are new and strange to new university environment. I remember that my first field trip in Mai Chau in Top-notch 2 is very interesting and exciting. Activities are interesting, attractive and destinations are wonderful. There are lots of team-building games that make our friendship closer and more united. We can understand more one another. Besides, it creates opportunity for us to practice English by doing project or assignment (interview foreigners – ask and talk to them about those places and so on). In short, the field trip in the English course is very necessary. (STD1)

Additionally, interviewees agreed that the field trips activities improved their communicative skills, “The most important thing I learned after the trip is how to be an open person, how I build my relationship with the people around me, especially the friends I just met when I first came University” (STD2).

The field trips activities also give students chances to communicate with foreigners “Secondly, I have become more confident. I would have more knowledge about destinations that I visited. Most importantly, I think I could improve my English skills when talking to foreigners. It was also the first time I had chance to talk directly to foreigners. (STD3)

## **Conclusion and Recommendation**

### **Conclusion**

Field trips is one of the methods which should be applied in teaching English. From the research, it can be concluded that to make use of field trips in foreign language teaching and learning, it is necessary for the teachers and students to follow the steps as well as the solutions suggested in the paper. Additionally, taking the reality into the lessons is the shortest way to narrow the gaps between the in-door classrooms with the outside ones. By doing so, field trips shall be one of the most effective tools in foreign language teaching and learning.

### **Recommendations**

By overviewing the theory of field trips and analyzing the reality of using field trips in tourism English teaching, the study has suggested 4 main solutions to improve students’ English skills. The solutions focusing on cooperating with businesses, creating real environment, renovating textbook and syllabus, renovating assessment shall be the good ways to improve students’ language skills.

The proposed solutions may be used as effective tools in foreign language teaching in general, in Tourism English teaching and learning in particular.

*Creating real environment in training institutions:* The fact shows that in the training institutions, there are adequate conditions for English teachers to set up field trips within the school (For example, when students of Electrical Engineering or Mechanical Engineering learn ESP, students are taken to the practice centers of Electrical Engineering and Electrical Engineering where they are given chances to experience the reality of the fields they are learning.

*Creating relations with businesses:* Cooperating with travel businesses is the best conditions for students to practice their English in the best ways. For tourism English, it is easy to cooperate with travel companies.

*Designing package tours as field trips:* By designing package tours as field trips, students will be given chances to take part in a journey in which they are assigned full of activities ranging from logistics, team building activities, and communicative activities.

**AMAZING RACE**  
**HANOI – MAI CHAU FIELD TRIP (2 days-01 night)**  
**Suggestion**

**Mai Chau Valley**

Mai Chau- amazing valley of hidden charm. Coming to Mai Chau to discover natural beauty and traditional values of ethnic groups. Chances to communicate with foreigners and attend social activities.




**Itinerary**

**Day 01:**

- Mai Chau Discovery
- Sun2 Campfire

**Day 2:**

- Class Competition
- Wrap up

**Accommodation**




**Campfire**

1. Music and Dance Performance
2. Mini-Games
3. Inter-class Competition



**Mai Chau Stilt House**

**Budget (Group of 200 students)**

**2-day, 01-night Mai Chau Field Trip**

- + Bus: 140,000VN
- + Entrance : 10,000 VND
- + Sound system renting: 8,000VND
- + B&B: 40,000 VND
- + Lunch (2):140,000 VND
- + Team Building: 40,000VND

**Total:378,000 VND/person**



Figure 2: Field Trip Intermarry Ha Noi- Mai Chau, Hoa Binh

**AMAZING RACE**  
**HANOI – HALONG FIELD TRIP (2 days-01 night)**  
**Suggestion**

**Ha Long Bay**

Ha Long- a must see for summit 2 students. Coming to Ha Long to get great chance of communication with foreigners, discovering purity and sweetness of nature.




**Itinerary**

**Day 01:**

- Beach Team Building Games
- Sun2 Gala

**Day 2:**

- Discovering nature
- Wrap up

**Accommodation**




**Gala Dinner**

1. Music and Dance Performance
2. Mini-Games
3. Talk show
4. Inter-class Competition



**Aroma Ha Long Hostel**

**Budget**

**2-day, 01-night Ha Long Field Trip**

- + Bus: 156,000 VND
- + Fee for beach using : 30,000 VND
- + Sound system renting: 12,000VND
- + B&B: 150,000 VND
- + Lunch (2):300,000 VND
- + Team Building: 40,000VND

**Total:688,000 VND/person**



Figure 3: Field Trip Intermarry Ha Noi- Ha Long, Quang Ninh

Preparing textbooks, syllabus: Renovating the contents of the textbooks and syllabus of ESP oriented in real conversations related to real situations of businesses.

Renovating the assessment: The contents of assessment need to be based on the real requirement of businesses. And the application of completing field trip tasks in teaching English is suitable.

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***Improving University Teachers' Professional Ethics  
in Teaching Practice in China***

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**Abstract**

Teacher's professional ethics, short for teacher ethics, refers to the relatively stable moral concepts, moral qualities and codes of conduct formed by teachers in the process of educational work. From this definition, we can know that teacher's professional ethics is an excellent quality of internalizing morality through teaching practice. Therefore, this kind of quality is not born and achieved overnight. In order to study how to improve teacher's professional ethics in the practice of education and teaching, this essay uses the methods of questionnaire and statistics to conduct targeted random questionnaire survey on several teachers, students and their parents in two local universities in Hebei Province of China, and makes statistical analysis on the results of the questionnaire. It is found that some teachers have some problems in their professional ethics in teaching practice, especially in classroom teaching. The gap between teachers' teaching ability, attitude, work engagement and expectations for them is obvious. Therefore, in view of the existing problems, colleges and universities should establish a construction system of teachers' ethics that is in line with the school situation, teachers themselves should learn the theoretical knowledge of teachers' professional ethics, and gradually improve their professional ethics in combination with teaching practice.

**Keywords:** teachers, professional ethics, teaching practice

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## 1.Introduction

### 1.1. Definition

Marxism believes that morality is a special ideology, and professional ethics is accompanied by the emergence of occupation, which is the extension and embodiment of morality in professional activities. Therefore, teachers' professional ethics is that teachers should follow the code of conduct in their professional activities (*Wei Yingming,2003*). It is the embodiment of teachers' world outlook, life outlook and values, as well as the stable and lasting norms of conduct reflected in professional activities. It also embodies teachers' professional concept, attitude, skills, discipline, and style. Former Soviet educator Sukhomlinski said: "The noble moral character of educators is the most important prerequisite for a successful education." Only by influencing students' soul with teachers' pure soul and noble character can they cultivate a new generation with good quality. Therefore, it is worthy of the title of "engineer of the human soul", which in itself reflects the social value of teachers' professional ethics. The Code of Professional Ethics for Teachers in Universities formulated by the Ministry of Education of China clarifies the professional responsibilities of teachers in universities from six aspects: patriotism, law-abiding, devotion to work, teaching and educating people, rigorous academic management, serving the society and being a model of teachers, and puts forward requirements for teachers' professional behavior.

### 1.2. Background and Motivation

Teachers' morality affects the level of education, teachers' original concept of teaching, working enthusiasm, and the communication between teachers and students (*Fu Weili,2007*). Moreover, the formation and development of students' good quality, correct outlook on life and values are directly influenced by teachers' moral accomplishment, which in turn affects the quality and level of personnel training in Colleges and universities. However, influenced by various factors in the social environment, there are still some problems in the professional ethics cultivation of some university teachers in their educational and teaching practice.

The lack of professional ethics of university teachers reflects not only a theoretical issue but also a practical one. First, it embodies the one-sided understanding of teaching and education. It is not enough to educate people with professional knowledge alone. Through professional education, students can become a useful machine, but cannot become a person of harmonious development (*Einstein,1936*). Some teachers in the classroom freely express some dissatisfied school, social speech, cannot transmit the positive energy of society, students not only cannot learn knowledge, ideas, and concepts but also are affected negatively. Secondly, it is reflected in the non-performance of post duties, non-dedication to work and lack of rigorous academic management. Some university teachers simply pursue economic interests and are busy with their second occupation all day, so they have no time for education, teaching, and scientific research activities. They do not study textbooks, teaching methods, update professional knowledge and pay no attention to the development of disciplines. In class, it is difficult to ensure the quality of teaching without careful preparation of lessons and propaganda according to texts; lack of communication with students, ignorance of students' learning status and learning



effect; no scientific research projects, no professional papers published, and slow development of teachers' own discipline research. Thirdly, it is reflected in its low moral accomplishment. Some teachers are selfish and lack the spirit of teamwork; some teachers cheat and plagiarize academically; some even seek personal gains taking advantage of their positions.

The above performances not only convey negative energy to students but also cause certain harm to society. Only by recognizing the problems existing in teachers' professional ethics, can we solve the problems better. Professional ethics of university teachers is not only a normative requirement for individual behavior, but also a means of educating students. Students have the characteristics of "teacher orientation" in psychological development and moral behavior. Teachers' moral level affects the formation and development of students' moral consciousness and moral quality. Therefore, university teachers should constantly improve their professional ethics and internalize the external professional ethics requirements into their own inner beliefs and beliefs (*Liu Cuiying, 2011*).

In summary, improving the professional ethics of teachers is an important aspect of the construction of teachers. This essay tries to establish a corresponding mechanism, create a good environment and improve the quality of teachers in the universities, which is an important guarantee for the continuous improvement of the education level and teaching quality in the universities.

## 2. Methodology

In this study, 50 teachers, 50 parents of college students from different occupations and 100 students from two universities in Hebei Province of China were selected as subjects. Questionnaires (See figures below) and individual interviews were conducted. With the questionnaire of Chinese University teachers' professional ethics accomplishment as the investigation tool, this paper studies the current situation of professional ethics cultivation of university teachers in China. This questionnaire uses SPSS statistical software for reliability analysis, and the final *Cronbach  $\alpha$  Coefficient* (i.e. Internal Consistency Coefficient) is 0.855, so the questionnaire has good reliability. The content of the questionnaire is designed based on the Code of Professional Ethics for Teachers in Universities formulated by the Ministry of Education of China. According to the requirements of professional responsibility and professional behavior of university teachers, the questions center on seven aspects: the evaluation of the profession of university teachers, the situation of university teachers' dedication and love for their posts, the influence of university teachers on students' outlook on life, the quality and ability of university teachers themselves, the ability to be a model for others, and the ability of unity and cooperation.

A total of 200 questionnaires were sent out, 186 were recovered and 179 were valid, with an effective rate of 89.5%.

## A Survey on Teachers' Ethics in Colleges and Universities (Student Volume)

Dear classmates:

Hello! Thank you for taking time out of your busy schedule to help fill out this questionnaire. In order to understand the current situation of teachers' morality in colleges and universities, and to improve the construction of teachers' morality, this paper investigates the situation of teachers' morality in colleges and universities. Please fill in the blanks according to your real idea (Please put your options in brackets).

This questionnaire is an anonymous survey, and the data are only used for scientific research and will never be released. Please rest assured. Thank you for your cooperation and support in this survey!

1. Your gender: ( )  
A: Male      B: Female
2. Your grade: ( )  
A. freshman B. sophomore C. junior D. senior
3. Your major: \_\_\_\_\_
4. What do you think of the overall professional ethics of the teachers in your university? ( )  
A. Good   B. Average   C. Bad
5. What do you think about the professionalism of teachers in your university? ( )  
A. Good   B. Average   C. Bad
6. What do you think of the teaching innovation ability of the teachers in your university? ( )  
A. Good   B. Average   C. Bad
7. What is the situation of teachers' professional ethics education infiltrated into teaching activities? ( )  
A. All teachers can do   B. Most teachers can do  
C. Few teachers can do it.
8. Among the following teachers, which type of teacher do you prefer to take? ( )  
A. Young Teachers   B. Middle-aged Teachers  
C. Old Teachers      D. Any one
9. What do you think of the quality and ability of the teachers in your university? ( )  
A. Good   B. Average   C. Bad

### 3.Results

Through the analysis of the data, it can conclude that only 23% of the respondents consider that the situation of university teachers' devotion to their jobs is good, 58% for average, and 19% for bad. For "The influence of university teachers on the formation of students' outlook on life", only 15% think it has a great impact, 72% think it is average, and 13% think it has no impact. 86% of the respondents think that the quality and ability of teachers themselves are very high. 37% think the ability to be a model for others is good while 32% think it's bad (shown in the charts below).

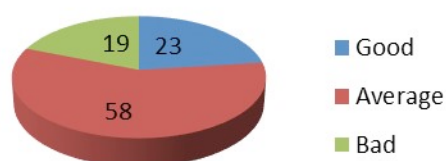


Figure 1: Professional Devotion and Job-loving

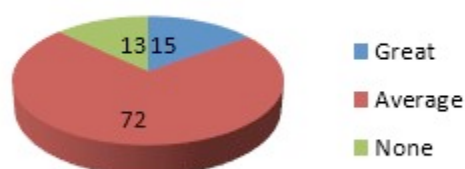


Figure 2: Influence on the formation of students' outlook on life

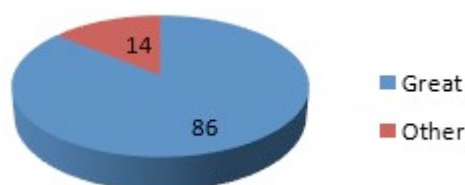


Figure 3: Quality and Ability oneself

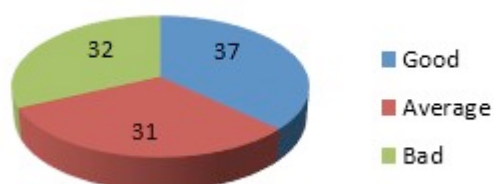


Figure 4: Ability to be a model for others

The results of the questionnaire reflect that people have high expectations for university teachers and full of respect and expectations for teachers' profession, but the moral accomplishment in practice cannot meet people's expectations. These problems reflect that teachers have not fully realized the sacred mission of teachers' identity. Also, they cannot fully comply with the provisions of the Code in their personal behavior. It is particularly important for university teachers to improve their professional ethics in teaching and educating people. In practice, the following ways and means can be adopted to improve teachers' professional ethics.

### 3.1. Improving the Theoretical Study of Professional Ethics

First, university teachers should constantly learn and master the theoretical knowledge of teachers' professional ethics, deeply understand China's "Code of Professional Ethics for College Teachers", take scientific theory as guidance, and clarify the purpose and direction of teachers' ethics cultivation. Second, learn from excellent teachers and moral models. All excellent teachers' moral practice is the concretization of teachers' moral theory, which has distinct, vivid, image and touching characteristics, and embodies teachers' moral style. Third, the continuous consolidation and

improvement of their own knowledge. We should not only pay attention to the knowledge of our specialty, but also to the knowledge of other related disciplines, so as to achieve integration, but also constantly pay attention to the development of frontier knowledge.

In short, study is a necessary way for teachers' moral accomplishment, and also a prerequisite for accomplishment.

### **3.2. Improving the Practice of Professional Ethics**

The cognitive process of human beings is a repeated process from practice to knowledge and then to practice. Only by applying various professional ethics accomplishments learned by teachers to educational practice can they gradually internalize into their own thoughts and behaviors, and only in educational teaching practice can they recognize the right and wrong of their actions and distinguish good from evil.

Therefore, in the practice of education and teaching, to improve teachers' professional ethics is the goal and destination of teachers' professional ethics.

#### **3.2.1. Devoting to Career and Promoting Professionalism**

Loving education is the most basic requirement for teachers. First of all, teachers should love and respect this profession from their hearts. Understand that they bear the responsibility of training new talents with all-round development of morality, intelligence and physique, so as to internalize into the internal motive force of education work. Secondly, teachers' work is painful and ordinary. It is precisely this way that teachers need to treat their work with respect, seriousness and responsibility. A dedicated teacher should never forget the responsibility of preaching, teaching and solving puzzles, and take cultivating and educating people as his lifelong ideal. Teachers on the front line of teaching should start with everything in the teaching process, treat every lesson as a new lesson, prepare lessons carefully, design teaching process carefully, organize teaching content.

Loving education is the most basic requirement for teachers and the motive force of teachers' work. Only in this way can teachers truly love and devote themselves to work and selflessness.

#### **3.2.2. Love students, persist in teaching and educating people**

Teaching and educating people are the work that run through the whole educational process and influence students through their words and deeds (*Qian Huanqi, 2008*).

First of all, teachers should understand students. Understand the psychological characteristics of students at this stage, familiarize themselves with their interests, hobbies and concerns, try to eliminate the generation gap and establish a common language. Encourage them to maintain a good mentality, develop a positive attitude towards life, and enhance their sense of social responsibility. Secondly, to respect students, believe in them, communicate with them more, and be good teachers and friends of students. Teachers should consider problems from the students' point of

view, encourage students to express different views and opinions, discuss learning and academic issues, and establish democratic and equal teacher-student relationship. Thirdly, students should be carefully cared for and strictly required, observe their emotional changes in life and study at any time, and guide them in time. Strict requirements should be reasonable, methodological and persistent.

Therefore, the teaching of scientific and cultural knowledge should combine with ideological and moral education organically in class, so as to truly teach and educate people.

### **3.2.3. Study assiduously and constantly improve and innovate**

In the process of education and teaching, the situation of students faced by teachers is complex and changeable, professional knowledge is constantly changing, and different disciplines are intertwined, which determines that university teachers must study hard and constantly improve and innovate. With the development of science and technology, the changing needs of society and the emergence of new knowledge and new curriculum, teachers must have the spirit of innovation, study their own business diligently. Only by constantly improving the professional skills of education and teaching, so that they have solid professional knowledge and grasp the frontier information of disciplines, can they be trained. Cultivate talents with new ideas, new science and innovative spirit.

At the same time, university teachers should be brave enough to resist unhealthy academic atmosphere, eliminate unhealthy academic ethics and abide by intellectual property law. In academic research, university teachers should resist all moral acts that are contrary to academia, such as plagiarizing other people's academic achievements, asking others to write articles for themselves, or blindly pursue quantity, crudely fabricate, or even tamper with or falsify research data and so on.

Therefore, only by constantly improving their own quality can teachers strictly manage their studies and inherit good academic morality.

## **Conclusion**

In a word, the professional ethics cultivation of university teachers is a process of internalization and outreach, and educational practice is an important activity to achieve educational purposes (*Zhang Shujun, 2003*). Through theoretical study, while constructing their own complete knowledge system, the more important thing is to practice in the teaching process and guide the teaching behavior with the professional ethics of University teachers, so as to cultivate their own good professional ethics.

This research shows that it is the fundamental way for college teachers to cultivate good professional ethics in the new era to hone their own will quality, enhance professional emotions and cultivate professional ethics in their work practice. The teachers should study the theory of professional ethics, learn from the excellent teachers and advanced individuals, so as to find their own shortcomings through comparison. It is supposed to study professional work hard, and constantly improve their own education and teaching level; to actively prepare for scientific research, summarize the successful experience of teaching and student management skills, and

consciously resist academic corruption and scientific research fraud. The most important thing is to care about the students from the heart and give them sincere care and help.

### **Acknowledgement**

Time flies. My first year of Ph.D. life is drawing to a close, and my second year of study and life in the Philippines is about to begin. At this time, my heart is full of mixed feelings. Looking back on this year's study and life, I have had joy and confusion. Thanks for studying abroad and for having these learning and life experiences. It is these experiences that make me grow up continuously. In the future, I will continue to work hard. At the moment, there are many words I want to say and many people I want to thank.

First of all, I want to thank my writing teacher, Thelma D. Palaoag in particular. I always feel that it's my greatest luck to be her student. Looking back on the first time I met my teacher, her temperament and demeanor infected me. I felt that she had a special personality charm. I know that it is derived from profound knowledge and noble personality. In the field of academic writing, she has always been our guides, teaching us the way of thinking and solving problems, cultivating our consciousness and ability of independent thinking; in dealing with people and the society, she is also my learning model. I learned to adhere to the principles of doing things, and treat academia conscientiously. What she unreservedly teaches me will be the wealth of my life.

Thank all the teachers in the Teacher Education College, University of the Cordilleras. Thank you for your hard work. I come to contact different ways of thinking in the first year. I enjoyed the academic style and personality charm of different scholars. The growth of this year cannot be separated from their efforts and teaching. Thank my dear other two authors. We study together, grow up together, and this year becomes colorful because of your company; Thank my family, my parents, my wife, and it is you who give me great support all the time.

Next semester, I will begin my second year of life as a doctoral student in education and management. With the help of my family, teachers and classmates, I will continue to work hard to enrich myself and strive to complete my dissertation defense and get my doctoral degree as soon as possible. Finally, I would like to say that I would like to be able to pass on what I have learned to my students in the future, and be a qualified teacher who can transmit positive energy.

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***Fourth Grade Slow Learners' Reading Error Analysis in Inclusive Elementary School in Indonesia***

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**Abstract**

This study aims to analyze 4<sup>th</sup> grade slow learners' reading errors in reading Indonesian text in an inclusive elementary school in Indonesia. This study involved four students who were diagnosed as slow learners. The investigation included planning, conducting, and analyzing the stages. The data were collected by recording the results of students' reading tests. The instrument employed was the adapted running records. This study used descriptive qualitative method. The results of the analysis revealed the most common error and the slow learners' reading accuracy. Based on the results of error analysis, there are two kinds of students' reading errors, namely, structure and visual information. The students' reading accuracy rate implied that two students were in difficult level, one student in the instructional level and another student in the independent level. The result of the study can be used by students to find out the location of reading difficulties encountered. In addition, teachers can use the result of this study as a consideration for providing further reading instruction.

Keywords: slow learner, error analysis, reading

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## Introduction

Reading is an essential skill which should be possessed by every student. Reading skill is a pre-requirement to master knowledge and the other academic skills (Eissa, 2014). Nevertheless, reading skill is very complex to be mastered by an individual because it involves many aspects such as language, perception, and cognitive (Laberge, 1974; Rasinski, 2014). The challenges related to that reading area lead to the failure in mastering reading skill. The difficulties found can be started from the challenges in mastering the skills of letter identification and the fluency in reading (Rasinski & Young, 2018). Based on the research conducted by (Mokhtari & Thompson, 2006) there is a significant correlation between the lack of letter identification skill and the level of individual's understanding in reading. It is also in line with the study conducted by (Cimmiyotti, 2013) which shows that academic achievements are strongly related to the reading skill.

The acquisition of reading skill is influenced by many factors. (Block, 2006) divided five domains which are related to the reading skill, namely cognitive skill, language factor, physical factor, personal skill, family and education. Cognitive skill consists of intelligence skill, memorizing skill, attention range, and cognitive strategy. Physical factor consists of listening skill, visual skill, brain development, and brain function. Language factor consists of listening skill, speaking skill, language disability, and language difference. Meanwhile, personal factor consists of self-motivation, self-competence, and consistent behaviour. Education factor is influenced by the opportunity in acquiring the appropriate teaching, and the early intervention for the reading problems. Lastly, family factor consists of the access to a friendly environment, and the family's records on the difficulties in reading or writing.

Slow learner is a special challenge implicated with the reading skill. The students with slow learner characteristic have the range of IQ capacity from 70 to 85 (Cooter & Cooter, 2004). The terminology of slow learner is understood as the child who needs the more time in studying, so the terminology of "slow" is starting to be eliminated in the definition of *slow learner* (Borah, 2013). The effect of the IQ capacity of slow learner affects the processing of information in the development of the language and reading skill. Slow learner has the limitation in the skill especially in reading the context understanding and remembering phoneme and vocabularies (Clubok, 1983). In the study conducted by (Clubok, 1983), it also revealed the skills of slow learner which is in one until two years under the level of the recent class. Therefore, the indication of the reading challenges in the slow learner can affect the academic achievements.

An effective reading activity can be conducted if teachers know the location and types of reading error faced by slow learners. One way to identify the reading problems faced by children is through the analysis of reading errors. The research conducted by (Rizkiana, 2016) revealed that the highest reading error occurred in the elementary school is in the area of recognizing letters and understanding the text. However, there is no error analysis found in the higher class. Meanwhile, the number of children identified to have problems in reading will be significantly seen. The higher class will lead to the difficulties of students in mastering academic assignments. Students will retreat from the academic activity especially from the activity which is not mastered

by students. Therefore, it is essential for teachers to recognize the error area of slow learner in the reading skill.

The error analysis which will be conducted in this article will adapt the Running Records Assessment (RRA). RRA is developed to facilitate students who experience problems in learning (Clay, 2000). Running record is the tool which is used to collect information and to analyse the reading difficulties. The development of RR consists of five stages, namely: (1) selecting the text which is appropriate with the skill of students and the text has been read by slow learners, (2) asking students to read the text, (3) recording the text conducted by students, (4) giving the scores and analysing the text, (5) using the information to plan the learning activity for students.

Running record identifies three types of error in reading namely: meaning (M), structure of the sentence (S), and visual information (V). The errors in the meaning (M) occur if the students substitute the similar meaning from the text, such as "*pertandingan*" becoming "*perlombaan*". The structure errors (S) occur if students substitute, add, or eliminate the letters in the words that they read. The visual information errors (V) occur if students have tendency to read by substituting the words that they read becoming the morphologically similar word such as "*Bapak*" to "*Kapak*". Therefore, students guess the words and substitute them with the similar one.

This article aims to analyse the errors in reading an oral text of Bahasa Indonesia conducted by slow learner in fourth grade of inclusion elementary school in Indonesia. This study reveals the accuracy and the most errors conducted by slow learner in oral reading activity.

## Conclusion

From the result of the test above, it was concluded that the most common error conducted by slow learners in the fourth grade of inclusion elementary school in Indonesia was in the area of structure. The result of reading accuracy of slow learners showed that two students were included into difficult category, because their reading ability level was not appropriate with the text for the first grade of elementary school students, one student was in the level of instruction and one student was in the easy level. Based on the data obtained, it was concluded that the types of error, the accuracy level, and the level of the text were appropriate to slow learners. The further implication from this analysis, it is expected that this kind of teaching can drive students in doing self-correction from the text. Besides, the adjustment of the difficulty level of the text is based on the students' recent ability level. This research also can be made as the basic description in planning the reading activity for slow learners

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***Effects on Japanese Students Who Had No Overseas Experiences by Japanese Students Who Had Overseas Experiences in Intercultural Co-learning Classes***

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**Abstract**

Recently the number of international students at Japanese universities has been increasing rapidly and many of Japanese universities have introduced intercultural co-learning classes, where Japanese students and international students learn from each other in the same curriculum. In this study, we examined and analyzed how Japanese students who had different overseas experiences interacted with each other in intercultural co-learning classes, whereas it is natural that Japanese students and international students interact with each other. After finishing group work of intercultural co-learning classes, we divided Japanese students who had no overseas experiences into two groups, one was the students with Japanese students who had experienced studying abroad (Group A), and the other the students with Japanese students who had not (Group B). According to the answers of questionnaires which consisted of skill and ability students could obtain through international co-learning classes, the students who had no overseas experiences in Group A obtained much sense of self-efficiency in the items of “You were able to have an open mind and behave”, “You were able to join group work with good teamwork”, and so on compared to the students who had no overseas experiences in Group B. In addition, we had interviews with the students who had no overseas experiences in Group A, and clarified the process of how they were influenced from leadership, personality, and behave of the Japanese students who had overseas experiences, and of how they obtained the sense of self-efficiency mentioned above.

Keywords: Intercultural Co-learning, Overseas Experiences, and Self-efficiency

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## Introduction

The number of international students studying in Japan has been increasing after Japanese Government launched the policy called “300,000 International Student Program” in 2008. The goal was almost accomplished in 2018 and the policy resulted in internationalization in educational institutions in Japan. Meanwhile, according to the progression of globalization, the inclination to study overseas among Japanese students has not been declining and about 115,000 Japanese students studied abroad as of 2018.

With that kind of background, many Japanese universities have introduced intercultural co-learning classes for both international students and Japanese students to learn from each other in the same curriculum. Whereas it is natural that international students and Japanese students interact with each other, it is not apparent how Japanese students who have different attributes, those are overseas experiences, interact with each other in intercultural co-learning classes. We divided them according to their attributes and let them answer questionnaires to confirm their sense of self-efficiency in intercultural co-learning classes in addition to interviewing them to clarify how they were influenced and obtained the sense of self-efficiency.

Our paper consists of five segments, the first overview and Shinshu University’s case of intercultural co-learning classes, the second questionnaires we implemented, the third interviews of Japanese students, the fourth analysis of the questionnaires and interview, and the fifth conclusion and future work.

## Intercultural Co-learning Class

Intercultural co-learning class is defined as below by Suematsu (2019, pp. 1 - 12).

“...provides both international and Japanese students with opportunities to learn from each other through "meaningful interactions." Thematic discussions and collaborative projects by students with diverse linguistic and cultural backgrounds are built into the learner-centered lessons where different ways of thinking, values, and working-styles are respected...”

It seems that the number of intercultural co-learning class has been increasing in Japan since 2010 because the number of papers concerning intercultural co-learning has been increasing rapidly since 2010 (Suematsu 2019, pp. 1 - 12). According to Takahashi (2019, pp. 1 - 13), 56 out of 84 national universities in Japan had intercultural co-learning classes in their universities, and 136 private universities in Japan held intercultural co-learning classes among 352 private universities in Japan which disclosed their syllabuses to the public as of 2018.

Shinshu University, one of the national universities in Japan and we authors belong to, also started intercultural co-learning classes experimentally from 2018. The title of the program of intercultural co-learning class in Shinshu University from 2018 to 2019 was “Program that transmits the attraction of Matsumoto in Intercultural Co-learning Class”. The goals of the program were: 1. perspectives of Japanese students and international students to be incorporated in movie in cooperation with both of them, 2. they create movies which spread the attraction in Matsumoto. All the

students were divided into groups, consisting of 3 Japanese students and 1 international students. Each group had to make 3 minutes movie after collecting data in Matsumoto together and each movie had to adopt “Clean Water” and “Miso”, which were tourist attractions in Matsumoto. Figure 1 shows flyer of the program.



Figure 1. Flyer of Intercultural Co-learning Program in Shinshu University

## Questionnaires

Various research has done about positive effects on intercultural co-learning classes. All the students who joined intercultural co-learning classes were able to enhance intention of intercultural exchanges, tolerance of different cultures, self-control of emotion, and so on (Suematsu, 2014, pp. 11 - 22) because intercultural co-learning classes were designed for Japanese students and international students to interact effectively with each other. It is apparent that Japanese students and international students give favorable effects on each other in intercultural co-learning classes, but it is not apparent that how Japanese students who join intercultural co-learning classes interact with each other. Sengoku (2019) showed that overseas experiences in advance had positive impacts to oneself in intercultural co-learning classes. According to the research, there is a possibility that overseas experiences are key to enhance effects of intercultural co-learning, but the result was limited to only oneself.

To answer the question “How Japanese students in intercultural co-learning classes interact with each other?”, we reconstructed the question, “How Japanese students who have different overseas experiences interact with each other?” For that, we divided Japanese students in intercultural co-learning classes who had no overseas experiences into two groups, one was the students with Japanese students who had experienced studying abroad (Group A, 14 students), and the other the students with Japanese students who had not (Group B, 9 students), and we implemented questionnaires for them to know their self-efficiency after finishing groupworks in intercultural co-learning classes. Questionnaires were made based on items Horie (2017) showed as the skills, abilities, and attitudes students can acquire in intercultural co-learning classes. Questionnaires consisted of 20 questions. Japanese

students were asked to answer each question in range from 1 (very negative) to 5 (very positive) and we obtained the average scores in each question. Questions are shown in Table 1.

Thought and Behaved Flexibly?	Controlled Your Feelings?
Had an Open Mind?	Cultivated Patience for Uncertainty?
Aware of Teamwork?	Got over Failure?
Dealt through Trial and Error with Curiosity?	Thought in a Multilateral Manner?
Developed an Ability to Observe?	Thought Positively?
Developed an Ability to Gather Information?	Be Conscience of Growth and Confidence?
Developed an Ability to Discover Each Task?	Developed an Understanding of Japanese (Foreign) Culture?
Developed an Ability to Solve Each Task?	Respected Different Cultures and Enjoyed the Difference?
Committed to Creative Activities?	Developed Intercultural Communication Skills?
Committed to Creative Activities?	Want to Continue Intercultural Exchanges?

Table 1. 20 Questions in Questionnaires

Comparing average scores in each question in Group A and B, Group A showed significantly higher average scores in 9 questions below: “Thought and Behaved Flexibly?”, “Had an Open Mind?”, “Aware of Teamwork?”, “Dealt through Trial and Error with Curiosity?”, “Behaved with Humor?”, “Controlled Your Feelings?”, “Cultivated Patience for Uncertainty?”, “Developed Intercultural Communication Skills?”, and “Want to Continue Intercultural Exchanges?”.

## Interview

To know how Japanese students in Group A were influenced and obtained the sense of self-efficiency, we conducted interviews as well as questionnaires. Interviews were conducted for 4 Japanese students in Group A in the manner of semi-structured interviews. They were asked first “How were you affected by the group member who had overseas experiences?” Through the interviews, we wanted to give light on how Japanese students who had overseas experiences had a positive impact on Japanese students who did not have. Tables below shows the overviews of the answers of interviews students A, B, C, and D.

Student A ↔ Overseas Experience Student A’
Student A’: Outspoken, Frank, Full of New Ideas, Calm
“I was affected by her interesting ideas”
“I worked with humor thanks to her”

Table 2. Answers of Student A

After experiencing intercultural co-learning classes, student A joined short visit to Vietnam and Thailand.



Student B ↔ Overseas Experience Student B'
Student B': Leadership, Harmonious, Communicative, Full of New Ideas
"I was encouraged by him and I thought flexibly"
"I was passive, but thanks to him, behaved positively"

Table 3. Answers of Student B

After experiencing intercultural co-learning classes, student B joined short visit to Cambodia and international student tutor.

Student C ↔ Overseas Experience Student C'
Student C': Consensus Builder, Full of New Ideas, Strong-willed
"I behaved flexibly by his plan"
"I behaved with humor because he is interesting"
"I was affected by his thought in multilateral manner"
"I felt my growth thanks to his efforts"

Table 4. Answers of Student C

Student D ↔ Overseas Experience Student D'
Student D': Full of New Ideas, Consensus Builder, Leadership
"She assigned a part appropriately, so I was aware of teamwork and it went well"

Table 5. Answers of Student D

After experiencing intercultural co-learning classes, student D joined English Speaking Society and visit Korea to meet her tutor buddy.

### Analysis

From what the statistical survey and interviews showed, if Japanese students who had overseas experiences joined groups, it seems that it had a positive impact on Japanese students who did not have in some aspects in intercultural co-learning classes. Questionnaires showed Japanese students in Group A felt the sense of self-efficiency in some questions of questionnaires. According to the interviews, possible positive factors "Good Leadership", "Full of New Ideas", "Consensus Building", and so on, which were overseas experiencing students attributes, may have affected learning and studying in intercultural co-learning classes positively and directly.

After conducting a follow-up survey, student A, B, and D devoted themselves to international activities after intercultural co-learning classes though they were no overseas experiences students. It is impossible for us to conclude that intercultural co-learning classes led to their devotion of international activities, but there is a possibility this was positive effects on intercultural co-learning classes.

### Conclusion and Future Work

In this paper, we introduced overview of intercultural co-learning classes in Japan and specific case in Shinshu University. To answer the question "How Japanese students in intercultural co-learning classes interact with each other?", we divided Japanese students who had no overseas experiences into two groups, Group A and B, and conducted questionnaires and interviews. According to the questionnaires, studying with overseas experiences Japanese students had positive impacts in some senses of

self-efficiency in intercultural co-learning classes. The interviews also showed that some positive factors of overseas experiences Japanese students affected their colleagues who did not have overseas experiences, positively. In addition to that, intercultural co-learning classes implied continuous engagement of international activities for Japanese students who had no overseas experiences.

For future work, we would like to continue a follow-up survey for members of Group A and B to investigate how intercultural co-learning classes will affect positively in the length of 3 or 4 years.

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***Needs Assessment: Do We Need It? A Case Study in an EFL Writing Class in Vietnam***

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**Abstract**

Needs assessment focuses on “the learning needs of students, and then, once they are identified, needs are translated into learning objectives” (Brown, 2011, p. 269). Assessment of students’ needs will help teachers to develop teaching materials, learning activities, tests, assessment tools more effectively in their EFL classrooms. Thus, recognizing students’ needs provides a strong foundation for good practice in EFL classrooms. This paper dealt with the use of needs assessment in an EFL writing class at a high school. Qualitative approach was employed in the study involving twenty-nine eleven graders. The research collected data from the researcher’s observation, students’ learning logs, the needs assessment forms and student writing. The data analyses found a wide range of positive impacts of needs assessment. Students’ perceptions of needs assessment and some problems arising during the implementation were also revealed. Pedagogical implications for orchestrating the learning in EFL classrooms were accordingly offered in the paper. It is, indubitably, important enough to warrant further investigation into needs assessment in EFL contexts.

Keywords: needs assessment, high school, EFL students

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## Introduction

Needs assessment has come to the fore with teachers, educators and researchers hailing value for student learning since learner-centredness gained prominence as a more effective approach in English Language Teaching (ELT). The increasing importance attached to needs assessment in ELT is due to the demand for better language teaching programs (Breen, 2001; Nation & Macalister, 2010; Richards, 2001; Watanabe, 2006). In other words, not a language teaching program should be designed without a thorough needs assessment. A reliable and valid needs assessment provides the output which becomes the input to syllabus design and materials development. Moreover, as a prominent role is accorded to English language learners in the learner-centred approach, needs assessment accordingly should be conducted by the learners themselves. In so doing, the learners become more active and self-reliant. Despite the significance and impact of needs assessment in L2 classroom teaching and learning, researchers (Priyanka, Asyiah, & Febriani, 2017) have long recognised the lack of formal discussions and empirical research on needs assessment. This concern has fueled the researcher's interest in investigating the implementation of needs assessment in the Vietnamese context. This paper explores the outcomes of the implementation, the students' reactions, and the problems they encountered. It is a five-fold study consisting of literature review, method, main findings and discussion, implications, and conclusion.

## Literature review

### *The prominence of needs assessment in ELT*

As learner-centred learning has gained ground in the nineteenth century, needs assessment has drawn special attention in the field of ELT. *Needs assessment* is used interchangeably with the phrase *needs analysis*. Needs assessment refers to “the process of determining the needs for which a learner or group of learners requires a language and arranging the needs according to priorities. Needs assessment makes use of both subjective and objective information” (Richards & Schmidt, 2010, p. 389). This definition is theoretically significant on two counts. First, it describes the relationship between the systematic collection and analysis of necessary information and effective English language learning. Second, it implies possible needs analysts: teachers, students, administrators and parents. In a similar vein, Nation and Macalister (2010) stated that needs assessment “makes sure that the course will contain relevant and useful things to learn” (p. 24) and that both teachers and students can conduct, analyse and benefit from needs assessment. Following Richards and Schmidt, Nation and Macalister, Brown argued that needs assessment should be “identified” and “translated into learning objectives”, which creates opportunities for “curriculum development” (as cited in Brown, 2016, p. 183).

The increasing importance attached to needs assessment highlights innovations in the learner-centred approach, or, generally speaking, in Second Language Acquisition (SLA). In addition, the emergence of the concept of learner-centred throws into question the involvement of learners in analysing and using needs assessment results. There have been different analysts in needs assessment; traditionally teachers are who plan, gather, analyse, interpret and use the information. One of the most recent

innovations is the needs assessment as learning with the emphasis on how needs are identified, analysed and used by learners, rather than solely by teachers. Learners' active involvement in needs assessment via the process of cooperating with the teacher is advocated by researchers (Brown, 2016; Cheng & Fox, 2017; Long, 2005).

### ***Impacts of needs assessment in EFL education***

There has been an extant body of literature dedicated to the impacts of needs assessment in EFL education (Alayafi & Gunduz, 2017; Boshier & Smalkoski, 2002; Brown, 1995; Brown, 2016; Cheng & Fox, 2017; Graves, 2000; Long, 2005). There has been evidence that needs assessment helps not only to create effective course design but also to make teaching more relevant to learners' needs and interests, enhance their motivation and involvement in learning. Studies have also alluded to the impacts of needs assessment on learners' autonomy and self-regulation. Furthermore, Cheng and Fox (2017) acknowledged that by recognising learners' needs, "elicited through needs assessment, we encourage the development of their personal sense of responsibility for learning, improved goal-setting and increased awareness of the role of self-assessment" (p. 147). These positive impacts on both the teacher's teaching techniques and the learner's learning strategies suggest the cooperative implementation of needs assessment in EFL education.

### ***Guidelines for needs assessment***

There has been any amount of research into the principles, steps and frameworks for needs assessment (Long, 2005; Richards, 2001; Tzotzou, 2014). The very first step in conducting needs assessment is to determine the rationale for gathering information about the learner's needs. Needs assessment, according to Richards (2001), "may take time prior to, during, or after a language programme" (p. 54). Specifically, when needs assessment is aimed at finding out what language skills learners need so as to achieve something, then needs assessment is better to be conducted at the beginning of a course. When needs assessment is purposefully carried out in order to review a curriculum, syllabus and classroom activities, it should be done during or after a language programme. A similar view has been set forth by Cheng and Fox (2017), who explained that the purpose of needs assessment during learning is to identify "gaps or discrepancies between a student's current level of performance and the intended level of performance" (p. 147). The two researchers affirmed that needs assessment results would help teachers to identify learners' strengths and address their weaknesses in order to work on developing learners' skills and proficiency to reach the desired learning outcomes.

Another important point which is worth considering is to decide to focus on the learner's situation needs or language needs or both for needs assessment (Al-Hamlan & Baniabdelrahman, 2015; Brown, 1995; Nunan, 2013). Particularly, Brown (1995) emphasised that situation needs refer to "information of the program's human aspects, that is, the physical, social, and psychological contexts in which learning takes place"; whereas, language needs mean "the target linguistic behaviours that the learners must ultimately acquire" (p. 40). Implied in these studies is that the learner-centred approach demands that needs assessment focus on both the learner's situation needs and language needs. Moreover, "needs are not fixed; they evolve over the days and

weeks of our interaction with our students” (Cheng & Fox, 2017, p. 150); thus, it is recommended that needs assessment should be done during learning to allow the teacher to take stock. Therefore, a learner-centred approach to needs assessment during learning which is planned by the teacher and completed by the learner is more conducive to learning in contexts where needs assessment centres on the learner’s learning process and their inner factors.

In the present study, given the students’ unfamiliarity with needs assessment and their enthusiasm for exploring their actual needs, a learner-centred approach to needs assessment was adopted. Focusing on both the learners’ learning process and individual differences, the study defines *needs* as what the students need to learn, how they feel about learning, how much effort they can muster and how much ability they possess for learning. Through the implementation of needs assessment, there was close cooperation between the teacher and the students. More specifically, the teacher played the role of a coach or facilitator who guided the process and discussed with the students on their problems, whereas the students took an active role in analysing, interpreting and internalising their needs to improve learning.

## **Method**

The current study aims to investigate the impacts of needs assessment on students in the Vietnamese contexts. In this light, there are hence three guiding research questions that keep the study on the right track:

1. What are the impacts of needs assessment on the students’ learning?
2. What are the students’ reactions to needs assessment?
3. What are the problems the students encounter during the implementation of needs assessment?

## ***Subjects***

The study comprised 29 eleventh graders in their first semester of the 2019-2020 academic year at a high school. The students, who were 14 males and 15 females, were enrolling in an intensive English programme. They had to attend eight periods of English per week, including two for reading, two for listening-speaking, two for writing and the last two for consolidation. Vietnamese is the native language of the subjects and English is their compulsory foreign language. Their English levels ranged from pre-intermediate to intermediate (B1 in the CEFR). The students appeared to be at the same age and to have the same educational background. There were nonetheless ‘high-able’ students and ‘low-able’ ones. In other words, they differed in their intellectual, physical and emotional development. Besides, the students wanted to improve their English writing as they did not receive much formal instruction on writing since their secondary school years. For these reasons, research on this group of students is believed to provide some insights into the potential of needs assessment at the high school level in the Vietnamese context.

## ***Data collection***

The present paper is a small-scale study employing a qualitative approach to investigate the implementation of needs assessment in an EFL writing class. The four



instruments utilised were the researcher's direct observation of the implementation of needs assessment in the classroom and their reactions towards it, the needs assessment forms, the students' learning logs, and the students' written work. The main tools were the researcher's observation, the needs assessment forms and the students' learning logs. The students' writing pieces were used for further triangulation of data.

The forms were designed and administered during the course, comprising 42 closed-response items and 9 open-ended questions for the students to fill in anonymously. The reasons for the use of both closed- and open-ended questions were that they were cost- and time-effective to design and that they allowed the students to freely express their opinions and attitudes. The needs assessment forms in the current study focused on five types of questions: problems, priorities, abilities, attitudes and solutions (Brown, 1995). Specifically, they aimed at identifying the problems the students were facing in their writing; prioritising topics, linguistics elements and so on for their writing, determining the students' writing ability; uncovering the students' feelings and attitudes toward their writing; and eliciting solutions for their writing. As mentioned earlier, needs assessment results should be completed and internalised by the students, the needs assessment forms in this study thus required the students to identify their own problems, to rate their own abilities, to judge their motivation, and so on. This kind of needs assessment is referred to as "self-rating" (Brown, 1995, p. 50) or "self-assessment" (Cheng & Fox, 2017, p. 147) of needs. This "means of making it theirs" (Cheng & Fox, 2017, p. 147) is "useful for obtaining practical insights into the self-image of individuals" (Brown, 1995, p. 50).

The students' learning logs were written by the students during the course. They were asked to write about their experience of the implementation of needs assessment, their improvements in writing, and their encountered difficulties. More specifically, there were three simple questions to enable the students to reflect on their experience, including "What is helping my learning most?" "What do I really like so far?" and "What's still fuzzy?" (Cheng & Fox, 2017, p. 150). Learning logs were used as "solicited narratives" (Duff & Anderson, 2015, p. 115) together with the researcher's direct observation, but they would offer more insight from the students' perspectives.

Last but not least, the researcher employed students' pieces of writing during the course. During twelve weeks, the students had to learn three writing units (in the textbook *Smart Time*, Grade 11, Special Edition, Express Publishing and Vietnam Education Publishing House by Virginia Evans & Jenny Dooley, 2017), covering the following topics: a description of a scene, an email about a person's experience, a blog entry. For each topic, the students were asked to write a first draft and then revised paper. Students' written work was all collected and analysed as it would provide rich information on students' improvements in writing (Duff & Anderson, 2015) and help to triangulate the data. There were two scorers to mark the students' papers: the researcher and another teacher who was not in charge of the class in order to ensure reliability and validity. The final mark of each student's paper was the average of the two examiners' score.

## ***Data analysis***

This paper employed a qualitative approach. Thematic analysis was then used to analyse qualitative data. The researcher's direct observation was analysed to obtain useful information from the teacher's viewpoints. The students' responses in the forms and learning logs were transcribed and translated into English, then grouped according to main themes. Only will notable comments be cited. Data from the students' pieces of writing helped to shed some more light on how needs assessment worked in the study.

## **Main findings and discussion**

### ***The impacts of needs assessment***

The analyses of the researcher's observation, the needs assessment forms, the students' learning logs and writing pieces unearthed a number of positive impacts of needs assessment on the students' writing and learning progress, their motivation and the course.

#### ***The students' writing and learning progress***

As discussed above, the more the students know about their needs, the more effective they will be in regulating and supporting their learning. Having the opportunity to identify, study and internalise their needs, the students were motivated to maximise their effort to meet their needs. Their reflections in learning logs and responses in the needs assessment forms revealed a wide range of improvements in learning, including enriched linguistic features, enhanced organisation skills, improved transferable skills, increased responsibility and confidence, and better relationships.

Stepping back from myself and identifying my learning needs, I learnt some new learning strategies and transferable skills in order to further facilitate my writing development. Needs assessment was worth it, I reckon. (S13)

There were enlightening and thought-provoking learning hours and we have better relationships with our friends and the teacher. (S24)

Concerning the students' improvements in writing, the analyses of their papers showed some signs of enhancement. The students' comments in their learning logs, their writing excerpts suggested that they improved their writing skills in a short period, particularly in terms of grammar, vocabulary and content. As for organisation and conventions, the increased opportunities to self-rate their needs, strengths and weaknesses also made some positive impacts on the students' writing development. Given that the students identified, analysed their needs, strengths and weaknesses, and searched for learning strategies during the completion of their writing tasks, it was understandable that their writing skills were gradually sharpened.

Needs assessment could confirm my needs, wants and areas of strength and pinpoint areas needing further work in my English writing. I then knew what actions to take to improve my writing skills. For instance, I learnt that I was not good at organising

ideas, so I decided to invest more time reading and analysing how ideas were presented in articles, newspapers, and then practising writing my paragraphs. (S11)

Needs assessment could spur the students to identify the kind of information that was the most helpful to know in order to improve their writing skills in particular and enhance their English learning in general. (OE).

Similarly, the analyses of the students' papers indicated some positive changes in their writing skills. Over three different writing topics, the students learnt valuable lessons for their writing. For the sake of simplicity, only striking improvements in the students' writing will be summarised in a table (see Appendix B).

### *Student motivation*

Data collected from the researcher's observation, the students' learning logs and the needs assessment forms also pointed out that the students' responsibility for learning and motivation were boosted. The students invested their time and effort in figuring out the best learning strategies for themselves after assessing their needs.

I started to step back from my own needs and identify my strengths and weakness. I then also began to analyse my learning styles and choose the best learning strategies which suited my needs and interests (S6).

I think needs assessment was a process that allowed us to identify and examine our needs and wants, our beliefs about learning, and that provided us direction for making our own decisions in learning more effectively (S10).

Not only was the students' responsibility developed, but their motivation was also increased thanks to needs assessment. Needs assessment enabled the students to recognise the gaps or discrepancies between their needs (or desired learning outcomes) and their current level of performance so that they could drive themselves more seriously to bridge those gaps.

I believe that needs assessment gave us the opportunity to participate in the selection of our learning. The process was a way of increasing the meaningfulness of our learning. I felt more motivated to set goals and put more effort into achieving my goals (S19).

By identifying their needs and wants, addressing their specific concerns and issues, which were all elicited through needs assessment, the students were encouraged and motivated to take more control of their learning by searching for various ways of learning such as discussing with peers and self-monitoring the learning progress in a dairy (OE).

### *The course*

It was disclosed from the researcher's observation and the students' learning logs that analysing needs of the students helped to identify the learning activities and experiences which shaped and supported their learning. Most students voiced their satisfaction with the learning activities which were adapted to suit their needs analysed in the forms. One opined that:

I reckon that needs assessment provided support and flexibility for the teacher's teaching and our learning. The chosen and adapted activities were exhilarating and relevant to our needs. We were having a more friendly, supportive and constructive learning environment. These will serve us well in our future endeavours. (S15)

The researcher's direct observation also documented that needs assessment helped to prioritise the learning activities, to design those classroom activities that fed into the students' intrinsic drives. and to orchestrate the teaching and learning more effectively.

Having the students reflect on their learning needs was a useful first step towards shaping my teaching to meet the students' and support their learning. The classroom activities were made to be consonant with the students' needs as much as possible during the study. The course was relevant, motivating and useful. (OE)

### ***The students' reactions to needs assessment***

Data collated from the researcher's direct observation, the students' learning logs and the needs assessment forms revealed the students' overall acceptance and satisfaction of the implementation of needs assessment. Most of them evinced their satisfaction over being given the chance to further understand their needs and take more control of their learning. This new learner-centred approach, which was opposed to the teacher-centred way of teaching in Vietnam, enabled the students to take more initiative and maximise benefit within a language programme. The students' involvement in needs assessment helped the teacher to design learning activities and experiences that had the greatest potential of supporting their learning, which as a result creating a more friendly and comfortable atmosphere in class as well as establishing a better rapport between the teacher and students.

The opportunity to self-assess our learning needs sparked a more luminous snapshot of our learning and helped to crystallise our accomplishments. We also had the chance to take more responsibility for learning and develop better relationships with our peers and the teacher. (S16)

We were given the right to voice our opinions, our needs so that we could further understand our wants, strengths and weaknesses. We felt like we had more responsibility and freedom to communicate with each other and the teacher about what to learn and how to learn in order to satisfy our needs and achieve the intended learning outcomes. (S4)

Twenty-three out of twenty-nine students also expressed their willingness to participate in needs assessment in the next courses.

Evaluating our needs can be an enlightening thing and part of meaningful learning, encouraging the development of our personal sense of responsibility for learning. The class atmosphere can be made more cooperative and comfortable. (S28)

A few students, nevertheless, believed that needs assessment was complex and confusing. They thought that the teacher should decide all the activities.

Well, the process of needs assessment was tiring to me. The teacher should know our needs from our first discussions and should not let us go through those complicated tasks in the class. (S7)

In addition, it is not surprising to find that most of the students appreciated the facilitating role of the teacher and recognised the importance of their active participation in needs assessment. One student stated: “The teacher gave us instruction and support during our needs assessment. We were also encouraged to take control of and fend for our learning” (S3). Some passive students took the view that the teacher should be the only judge who made decisions pertinent to the language content and form. They were still influenced by the thought that students should passively wait for and dependently act upon their teachers’ instruction. A few of the students ignored needs assessment and did not take it seriously as they should.

Some passive and reticent students had thought that the teacher should decide everything for them and they should only follow her instruction. (OE)

Overall, the students welcomed the implementation of needs assessment in the following courses and even in other subjects of study. They voiced their satisfaction with needs assessment and of its impacts on their learning. However, the students also reported that there should be more guidance and support from the teacher during needs assessment so that they would feel ready and comfortable to take more control over their learning decisions. In brief, the students’ attitudes towards needs assessment can be explained by one student’s response in her learning log:

By doing needs assessment, we not only improved our writing skills but also built up close contact with our classmates and the teacher, which made it much easier to communicate with them, consequently it turned out to be easier for us to improve our English learning. (S26)

### ***The problems the students encountered during needs assessment***

Data gleaned from the researcher’s direct observation and the students’ learning logs implied that the first thing that caused difficulties was the students’ unfamiliarity with needs assessment. Some students got used to being told and spoon-fed by their teachers due to their prior learning experience at secondary school. Their passiveness and timidity indeed put them at a disadvantage. One student admitted that:

The new way of teaching and learning made us at first often confused as we had never done needs assessment before. As a result, we could not give full answers to some questions and the class atmosphere was less comfortable. (S25)

The students told me at first that they didn’t know how to evaluate themselves and their needs and were often at a loss. (OE)

The second problem the students faced were their use of English in writing learning logs. Some students reported that they were having difficulty in formulating ideas in English, which made them felt obliged to resort to L1 while noting down thoughts. Moreover, a few students neglected to write their learning logs at first as they thought this act of self-reflection was unnecessary.

I am not good at writing English, so I switched to Vietnamese at times. When I was asked to write a log in English, I felt a bit nervous and confused. I even had thought it was a redundant task. Only when the teacher explained that this was a self-reflection, I felt more confident and comfortable. (S1)

Last but not least, some students still found it hard to identify and analyse their needs due to their first time discovering themselves. This was affected by the Asian culture that one seldom had the chance to see through himself or herself. As mentioned, at secondary school in Vietnam, these students had had little chance to express themselves. One student said that “I confess myself passive and reserved. I felt bewildered by being asked to self-assess my learning needs. I think it was a good way for us to develop language skills and transferable skills, but I still need more time to get ready with it” (S18). This suggests that teachers need to talk with their students, provide them with more training and support so that needs assessment can be used to its fullest.

In conclusion, the analyses of the collated data from the researcher’s direct observation, the students’ learning logs and written work, and the needs assessment forms disclosed quite a few impacts of needs assessment on the students’ writing skills and transferable skills. The finding was corroborated with that of Brown (1995), Brown (2016), Cheng and Fox (2017), Graves (2000). The findings from different sources of data also pointed out most students’ positive reactions towards needs assessment. The students’ acceptance and satisfaction of the implementation of needs assessment were found consistent with that of Priyanka, Asyiah and Febriani (2017), Tzotzou (2014). Nonetheless, a few students felt ambivalent about needs assessment and encountered several challenges during the process. It seemed that the students’ unfamiliarity with needs assessment, their low language proficiency and passiveness had caused those difficulties to them. This finding was supported by researchers Al-Hamlan and Baniabdelrahman (2015), Richards (2001) and Nunan (2013). In the present study, the students were required to self-rate and self-reflect on their needs in order to become more involved in decisions concerning the learning activities and experiences in the course. Needs assessment, however, was not completely facilitated as the implementation was rather new to the students. Although there were some guidance and support extended to them, it was not sufficient to assist the students, particularly low-able ones in becoming more ready and comfortable to recognise their needs in a perceptive and meaningful manner. Only if these problems have been solved would the positive impacts of needs assessment be maximised.

## **Implications**

It is important to note that the implementation of needs assessment requires a clear rationale and good preparation. Teachers should help students realise the benefits of needs assessment in syllabus design and materials development in general and in language development in particular. Identifying the kind of information about students which would be the most helpful to know is also the teachers’ onus. Based on such information teachers will be able to design the tools to measure their students’ needs. Once students have recognised the great value of needs assessment and come to understand that needs assessment is a cyclical and continuous process in which the

output of it will be the input in curriculum development, they will feel at ease and ready to embark on this application.

Training and support are critical to the successful implementation of needs assessment. Being cognizant of needs assessment is an important step toward a reliable and valid needs assessment. Training helps students to become accustomed to the process of needs assessment and to feel more confident and comfortable with it. Support from teachers helps to cater to students' individual differences and create opportunities for further understanding of their needs, strengths and weaknesses. Better still, student-teacher dialogues can be added for teachers and students discuss where the students are, where they need and want to go to, and how to get there. Students need to learn and will surely learn essential skills during needs assessment such as critical thinking and problem-solving skills.

Lastly, teachers and students should be patient and serious with needs assessment as needs are not fixed and evolve over days and weeks. As discussed, needs assessment is a cyclical and continuous process, it may be better to conduct needs assessment many times in a language programme to allow us to take stock in order to make full use of needs assessment. Quite a few challenges may arise during needs assessment, both teachers and students have to actively equip themselves with teaching methodologies and learning strategies respectively in order that they will become clever and flexible to overcome those obstacles.

## **Conclusion**

The present study has yielded some useful information about the implementation of needs assessment in a Vietnamese context in which teacher-centredness and grammar-translation methods have long gained momentum and students are generally thought to be passive and uncommunicative. This paper also disclosed a number of impacts of needs assessment on the students' writing skills and transferable skills and their certain satisfaction of the approach. Still, needs assessment was quite new to the students, they found several challenges. Much time and effort are thus needed for better implementation of needs assessment. Needs assessment has come to the fore with researchers hailing value for student learning as student-centredness has burgeoned in the past years. Further empirical investigation is clearly warranted so as to find ways of taking full use of needs assessment in the English language classroom.

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## APPENDIX A

### Needs assessment form

This form aims at finding out how English writing is important to you. The collected information will be helpful for planning our English writing lessons in more a way you like and need. Please do not put your name on the form. All your information will be strictly confidential.

Before we start, please remember to:

- read the questions with attention
- answer carefully all the questions
- give true answers for you

Please indicate how true the following statements are to you by **circling** the number best suits your situation for each statement in **Section A, C and D**.

1. Not true at all
2. Somewhat true
3. Fairly true.
4. True.
5. Completely true.

#### A. Learners' difficulties/problems

When I write ...

Statement	Rating scale				
I have difficulty in English grammar.	1	2	3	4	5
I have difficulty in using collocations.	1	2	3	4	5
I have difficulty in choosing examples/information.	1	2	3	4	5
I have difficulty in grouping ideas.	1	2	3	4	5
I have difficulty in sequencing ideas.	1	2	3	4	5
I have difficulty in using transitions.	1	2	3	4	5
I have difficulty in choosing the right tone/style.	1	2	3	4	5
I have difficulty in conventions. (e.g. spelling, capitalisation, punctuation, etc.)	1	2	3	4	5
Other problems I have been having with my English writing:					

#### B. Learners' priorities

Please **rank** the following from 1 to 6 according to their importance to your English writing. (1 is the most influential and 6 the least influential.)

##### B1. Aspects of writing

- £ Grammar
- £ Vocabulary
- £ Ideas/Content
- £ Organisation
- £ Conventions
- £ Other (please specify):

##### B2. Genres of writing

- £ Descriptive
- £ Narrative
- £ Persuasive
- £ Argumentative
- £ Expository
- £ Other (please specify):

**C. Learners' abilities**

Statement	Rating scale				
I am good at learning English grammar.	1	2	3	4	5
I am good at learning collocations.	1	2	3	4	5
I am good at selecting examples/information.	1	2	3	4	5
I am good at grouping ideas.	1	2	3	4	5
I am good at sequencing ideas.	1	2	3	4	5
I am good at using transitions.	1	2	3	4	5
I am good at using the right tone/style.	1	2	3	4	5
I am good at learning conventions. (e.g. spelling, capitalisation, punctuation, etc.)	1	2	3	4	5
Other elements of writing I am good at:					

**D. Learners' attitudes****D1. Learners' attitudes towards English writing**

Statement	Rating scale				
I believe writing is important for my current study.	1	2	3	4	5
I believe writing is important for my future study.	1	2	3	4	5
I believe writing is important for my future career.	1	2	3	4	5
I believe writing is important for my travelling.	1	2	3	4	5
I believe writing is important for me to communicate with foreigners.	1	2	3	4	5
I believe writing is important for me to achieve international certificates. (e.g. IELTS, TOEFL, etc.)	1	2	3	4	5
I like writing because the process of writing is interesting and creative.	1	2	3	4	5
I like writing because the process of writing helps me develop transferable skills. (e.g. critical thinking, problem-solving, etc.)	1	2	3	4	5
Other reasons for which I learn writing:					

**D2. Learners' attitudes towards ways of learning writing**

Statement	Rating scale				
I believe that I learn writing better and more efficiently by studying grammar rules.	1	2	3	4	5
I believe that I learn writing better and more efficiently by expanding my vocabulary.	1	2	3	4	5
I believe that I learn writing better and more efficiently by outlining ideas.	1	2	3	4	5
I believe that I learn writing better and more efficiently by reading and analysing model texts.	1	2	3	4	5
I believe that I learn writing better and more efficiently by doing small tasks/exercises.	1	2	3	4	5
I believe that I learn writing better and more efficiently by playing games.	1	2	3	4	5
I believe that I learn writing better and more efficiently by discussing with my peers (e.g.	1	2	3	4	5

having my peers to assess my papers).					
I believe that I learn writing better and more efficiently by working on my own (e.g. self-assessing my papers).	1	2	3	4	5
Other ways I can learn writing:					

**E. Learners' solutions**

Please refer to Section A about your problems in writing and write the solutions in detail

What actions I take to overcome my problems in ..... are

.....  
 .....  
 .....

What actions I take to overcome my problems in ..... are

.....  
 .....  
 .....

What actions I take to overcome my problems in ..... are

.....  
 .....  
 .....

THANK YOU!

**APPENDIX B****Students' major improvements in writing**

Aspects of writing	First drafts	Revised papers	Students
Grammar	A best friend is the one without <i>who</i> you don't even want to imagine your life.	A best friend is the one without <i>whom</i> you don't even want to imagine your life.	S9
	A best friend is someone who is always there to help you in distress, who <i>cry</i> with you when you cry, laughs with you when you <i>laughs</i> .	A best friend is someone who is always there to help you in distress, who <i>cries</i> with you when you cry and laughs with you when you <i>laugh</i> .	S12
Vocabulary	Also, it is <i>heterogeneous</i> city, which is advantage for us, we could learn about different countries and cultures.	Also, it is <i>multicultural</i> city, which is advantage for us, we could learn about different countries and cultures.	S5
	Because of hackers community now it's very easy to decipher someone's chat or email messages. As we know data is <i>transferred</i> in the form of packets, hackers sniff that packets and easy	Because of hackers community now it's very easy to decipher someone's chat or email messages. As we know data is <i>transmitted</i> in the form of packets, hackers sniff that packets and easy reconstruct.	S20

	reconstruct.		
Ideas/ Content	Furthermore, there are many fast food restaurants so we could find job as part time.	Furthermore, there are many fast food restaurants so we could find job as part time. <i>For example, most of the students in Danang working as part time in fast food restaurants.</i>	S27
	Anytime you visit or stay in a new country it can be challenging, even if you think you have it fully researched. You will be faced with a new language, customs, food, dress style etc this can be frustrating.	Anytime you visit or stay in a new country it can be challenging, even if you think you have it fully researched. You will be faced with a new language, customs, food, dress style etc this can be frustrating. <i>For example, communication problems such as not being understood, food, attitude, and customs, these things may start to irritate you.</i>	S14
Organisation	Internet is the best source of variety of information. Now even students of colleges and universities mainly depend on it to complete not only their assignments but also to keep themselves up-to-date. There is no better source of research other than internet. <i>Internet shopping is becoming popular because of virtual shops where you can buy anything you want and need without going out of home.</i> Online games, chatting, surfing, music, movies, dramas and TV shows are becoming most common sources of entertainment. Games are available free of cost, chat rooms are available to discuss on any topic, entertainment websites are accessible, online movies and other	Internet is the best source of variety of information. Now even students of colleges and universities mainly depend on it to complete not only their assignments but also to keep themselves up-to-date. There is no better source of research other than internet. Online games, chatting, surfing, music, movies, dramas and TV shows are becoming most common sources of entertainment. Games are available free of cost, chat rooms are available to discuss on any topic, entertainment websites are accessible, online movies and other	S3

	TV shows are also easily accessible just because of internet.		
	Living and studying abroad can broaden your perspective on life. You will make lots of new friends and have loads of great stories for all your friends at home.	Living and studying abroad can broaden your perspective on life. <i>Besides</i> , you will make lots of new friends and have loads of great stories for all your friends at home.	S22
Conventions	A best friend is <i>some one</i> you are comfortable with.	A best friend is <i>someone</i> you are comfortable with.	S17
	Hanoi has many companies and factories, <i>therefore</i> we could get job related to our field which we are studying in.	Hanoi has many companies and factories; <i>therefore</i> , we could get job related to our field which we are studying in.	S8





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