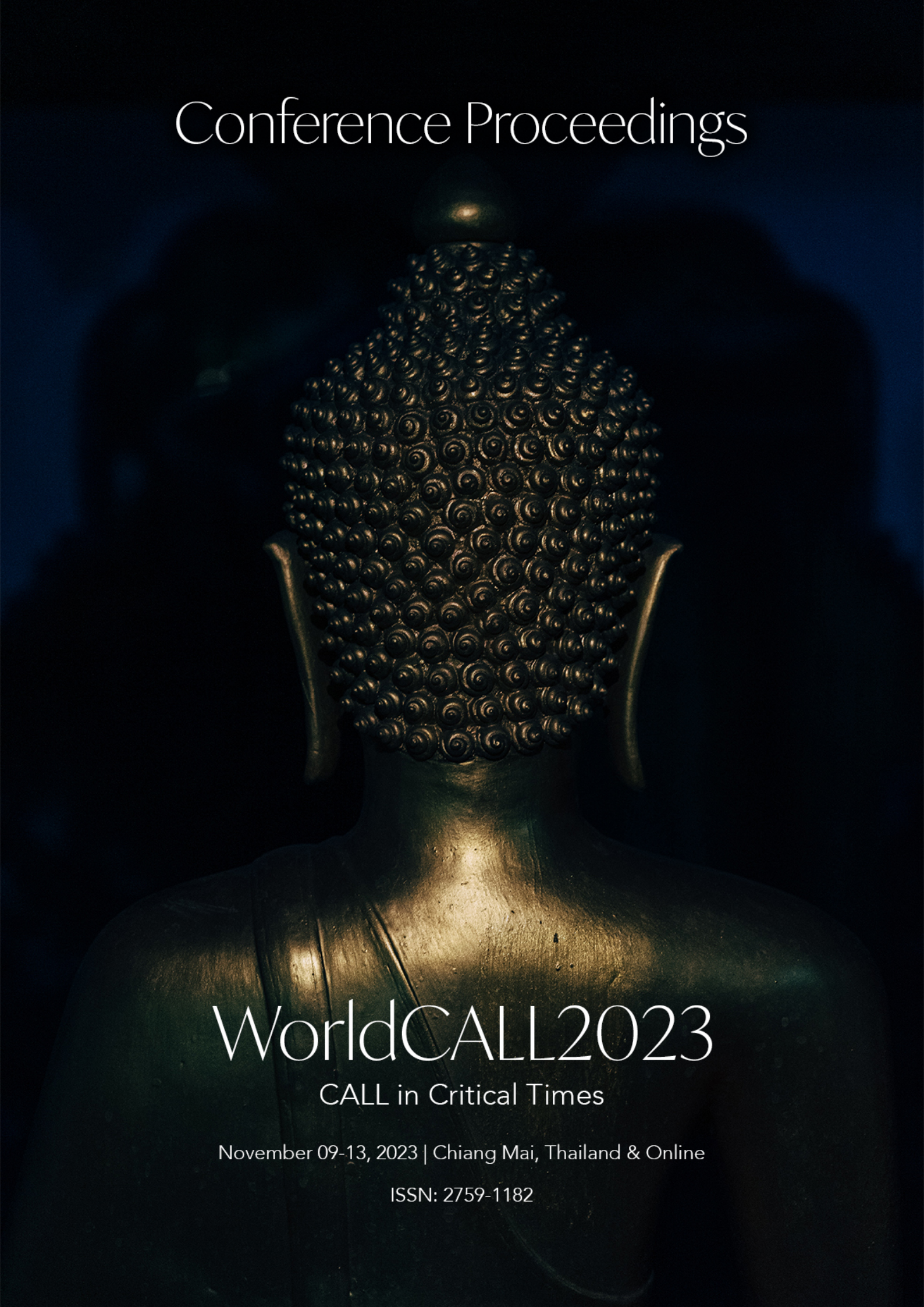
Conference Proceedings



WorldCALL2023

CALL in Critical Times

November 09-13, 2023 | Chiang Mai, Thailand & Online

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Foreword

The **VI WorldCALL Conference** brought us together for four intense days, from 9th to 13th November 2023, onsite at the Khum Phucome Hotel and Convention Hall in Chiang Mai, Thailand, as well as online.

WorldCALL is an umbrella association for organizations that focus on Computer-Assisted Language Learning (CALL) around the world. It aims to enhance CALL in the global community by bringing educators from all five continents together. As an international association, WorldCALL provides a worldwide focus for the promulgation of innovative research, development and practice in all sectors of education; it enhances opportunities for knowledge and skills transfer to those nations currently underserved and serves as a forum for exchanging information and forging professional relationships among educators, researchers, and industry leaders across the world.

As the worldwide organisation that is concerned with CALL in all its manifestations, WorldCALL is ideally placed to highlight the benefits of new technological developments. It plays a leading role in providing a forum for discussing the application of state-of-the-art technologies - including artificial intelligence- for language learning and teaching, supplying professional training and development for teachers and, significantly, giving developing countries, through sponsorship, the opportunity to project their culture worldwide and to become involved in the application of technology in language learning.

The WorldCALL 2023 Conference Proceedings reflect this reality by bringing together perspectives on CALL from diverse corners of the world, including Australia, Bahrain, China, Germany, Hong Kong, Indonesia, Iran, Japan, Singapore, Taiwan, Thailand, United Kingdom, United States of America, and Vietnam, dealing with various topics such as Educational Hackatons, ChatGPT, Virtual Exchange, Digital Storytelling, Language Learning Apps, Open Educational Resources, Virtual Reality, AI Avatars, etc.

Since its foundation in the mid-nineties, WorldCALL has visited four continents: Melbourne, Australia (1998); Banff, Canada (2003); Fukuoka, Japan (2008), Glasgow, Scotland, United Kingdom (2013), and Concepción, Chile (2018). As you can see, the WorldCALL Conference takes place every 5 years so we could call it the “Olympic Games” or the “World Cup” of Computer-Assisted Language Learning!

In 2023, WorldCALL has continued its Scholarships Programme to enable postgraduate students and junior academics to attend the Conference. The Scholarships Programme, first introduced in 1998, is a way in which WorldCALL brings the experiences of language professionals to colleagues working in less developed nations. This exchange of ideas and practices also promotes the development of international networks that bridge the gap between technologically advanced countries and those underserved in technology and CALL.

I was particularly delighted, therefore, to welcome the six **WorldCALL scholarship awardees** who, through a competitive process, proved their academic excellence and passion for CALL. They joined us from Bangladesh, Brazil, Cambodia, India, Indonesia, and Sri Lanka. Congratulations to them! This year, the scholarships programme was coordinated by colleagues **Tom Robb** and **Siew-Ming Thang**, to whom I would like to express my gratitude.

Many thanks are also due to **David Barr** and **Emerita Bañados** for leading the Programme Committee and putting together such an out-reaching high quality academic programme. This would not have been possible without the help of our team of international reviewers who diligently put their expertise at our service. My most sincere gratitude also goes to **Mike Levy**, from whom I picked up the baton in 2016, and who led the Keynote Speakers Selection Committee.

Last, but not least, I would like to express my gratitude to **Joseph Haldane**, Chairman and CEO of **IAFOR** and his staff members **Alexander Pratt**, **Matthew Chima** and **Amina Batbold** for their courage in taking on the commitment of organising such a challenging event, a conference that creates enormous expectation among the CALL community worldwide, at such short notice due to unexpected dire international circumstances. You did a wonderful job. Thank you!

As the theme of the conference suggested -***CALL in Critical Times***- we tried to depict the turbulent times we are living, having suffered the COVID-19 pandemic, where millions died worldwide, and sadly witnessing two devastating ongoing wars. Our thoughts are with all the innocent lives that have been taken.

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The International Academic Forum (IAFOR)
iafor.org

Founded in 2009, The International Academic Forum (IAFOR) is a politically independent non-partisan and non-profit interdisciplinary think tank, conference organiser and publisher dedicated to encouraging interdisciplinary discussion, facilitating intercultural awareness and promoting international exchange, principally through educational interaction and academic research. Based in Japan, its main administrative office is in Nagoya, and its research centre is in the Osaka School of International Public Policy (OSIPP), a graduate school of Osaka University.

Computer Assisted Language Instruction Consortium (CALICO)
www.calico.org

CALICO, the Computer Assisted Language Instruction Consortium is a professional organization that serves a membership involved in both education and technology. CALICO has an emphasis on language teaching and learning but reaches out to all areas that employ the languages of the world to instruct and to learn. CALICO is a recognized international clearinghouse and leader in computer assisted learning and instruction. It is a premier global association dedicated to computer-assisted language learning (CALL).

Confédération Européenne des Centres de Langues de l'Enseignement Supérieur (CercleS)
www.cercles.org

Founded in Strasbourg in 1991, the Confédération Européenne des Centres de Langues de l'Enseignement Supérieur (CECLES) is a European organization that connects language centers and professionals from higher education institutions. Its main goals are to promote language teaching and learning in higher education, foster cooperation among language professionals, and support research and innovation in language teaching and learning. Through conferences, workshops, and other events, CECLES provides a platform for language professionals to exchange ideas and share best practices.

European Association for Computer-Assisted Language Learning (EUROCALL) nuspress.nus.edu.sg

The European Association for Computer-Assisted Language Learning (EUROCALL) is a professional association that promotes the use of technology in language teaching and learning across Europe. EUROCALL provides a forum for researchers, practitioners, and educators to share their knowledge and expertise on the use of technology in language education. The organization also hosts conferences, workshops, and online events to promote collaboration and networking within the field. Additionally, EUROCALL publishes a peer-reviewed journal and other publications to disseminate research and best practices in the field of computer-assisted language learning (CALL).

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International Association for Language Learning Technology (IALLT)
www.iallt.org

IALLT is a meeting ground for professionals with overlapping interests: language teachers, librarians, lawyers, architects, software developers and others. IALLT is a community of volunteers dedicated to providing students and teachers the best language methods and technologies possible.

Korea Association of Multimedia-Assisted Language Learning (KAMALL) kamall.or.kr

The Korea Association of Multimedia-Assisted Language Learning (KAMALL) is a professional organization that aims to promote the use of multimedia technology in language education in Korea. KAMALL provides a platform for researchers, practitioners, and educators to exchange ideas, share research findings, and collaborate on projects related to multimedia-assisted language learning (MALL). The organization hosts conferences, workshops, and seminars to facilitate networking and professional development opportunities for its members. KAMALL also publishes a scholarly journal and other publications to disseminate research and best practices in MALL. Additionally, KAMALL works to increase public awareness of the importance of MALL in language education and advocates for policies that support its integration in educational settings.

Japan Association for Language Education and Technology (LET)
www.j-let.org

The Japan Association for Language Education and Technology (LET) is a nonprofit professional organization dedicated to the enhancement of foreign language teaching in Japan and the development of media and information technologies in education. With a 50-year history, LET has strongly encouraged the development, improvement and exchange of ideas and resources amongst not only educators, but individuals of all backgrounds who share an interest in this field. The LET vision is to create a vast community of individuals interested in developing and sharing a rich abundance of resources and information.

Asia Pacific Virtual Exchange Association (APVEA)
apvea.org

The Asia Pacific Virtual Exchange Association (APVEA) was established with the goal of linking students in the Asia Pacific region and beyond via virtual exchanges. The growing need for more dialogue amongst the many countries that make up the dynamic Asia Pacific region and other countries around the world, spurred the committee on to developing this new association so that it now works to expand virtual exchange not just in the Asia-Pacific region, but around the world.

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Creating Innovative Educational Hackathons as a Means for International Institutions to Collaborate While Also Assisting NGOs

Katherine Green, The Chicago School, United States
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Abstract

Educational hackathons offer a unique learning opportunity for participants. They provide a platform for individuals to learn new skills, collaborate with others, and solve complex problems while working on real-world projects and gaining hands-on experience. This approach is particularly rewarding when used to connect universities across continents and to partner with international NGOs. This paper will outline how one university in the US partnered with another in the UAE to create a hackathon that was focused on media ideas aimed at spurring on mental health awareness campaigns specifically for the global NGO, Médecins Sans Frontières. For this event, students from both countries collaborated in teams to develop proposals focused on mental health awareness. In the paper, we will describe how hackathons can bring students together across the world in order for learners to discuss relevant and trending events. We also provide 10 suggestions as to why hackathons can be beneficial and some ways to increase success.

Keywords: Hackathon, NGO, University Students

Introduction

Educational hackathons offer a unique learning opportunity for participants. They provide a platform for individuals to learn new skills, collaborate with others, and solve complex problems in a competitive yet supportive environment. By working on real-world projects, hackathon participants gain hands-on experience and develop valuable skills that assist them in their academic and professional pursuits. Additionally, educational hackathons foster a sense of community and collegiately among participants resulting in an environment that encourages learning, creativity, and innovation. As highlighted by Garcia (2022), institutions of higher education are progressing toward creating a nexus among practical, theoretical, and technical dimensions. Participation in educational hackathons allow for development of these skills through project-based learning.

Why Hackathons Align to Learning

The hackathon described in this paper was initiated to provide hands-on experiences assisting the NGO Médecins Sans Frontière (Doctors Without Borders/MSF) in developing mental health awareness campaigns in the UAE and US. Graduate students from The Chicago School in the US and The Abu Dhabi School of Management in the UAE formed teams to focus on developing a digital media project aimed at promoting mental health awareness in local communities with a focus on COVID-19 and stress and how there is "no health without mental wellness." This specific focus was formed out of the COVID-19 pandemic research that showed mental illnesses including depression and anxiety were rising rapidly (Wong et al., 2021). Students often have a great desire to help solve these problems and yet feel overwhelmed or unable to narrow down to specific ideas. Engaging in a hackathon gives them this hands-on learning project and thus raises engagement in learning and increases motivation which are the strongest determinants to student success (Garcia, 2022). The experience also encourages innovation and how to work quickly in a team situation. These are all skills highly emphasized in 21st Century learning (Irani, 2015).

Global crises or disasters unfortunately need these fast and innovative approaches to problem-solving. COVID-19 provided a much-needed demand for innovation and indeed it spurred on the European Innovation Council to lead the EUvsVirus hackathon which involved 30,000 people across Europe and resulted in more than 2,000 projects (Bertello et al., 2022). This much larger project than the one focused on in this paper, however, had similar goals focused on establishing new and innovative collaborations models across countries (Bertello et al, 2022). Laudable at all levels.

Organizing a Hackathon

The term 'hackathon' is comprised of the words 'hacking' and 'marathon.' We define hacking as a problem-solving process requiring creativity and out-of-the-box thinking. Then marathon refers to the push for working under pressure in a shortened time frame. Flores et al., (2019) suggested 48-72 hours as the intended completion time. However, the hackathon described in this paper was set at 96 hours due to time zone considerations between the UAE and US. Flyers were created and shared across the two institutions and students were encouraged to sign up in teams of three (or be assigned to a team) and then given instructions via a kick-off Zoom meeting. Each day they received an email with encouraging messages, information, and short videos from multiple stakeholders including MSF leaders and university administration. Then at the end of the allotted time, everyone met again in Zoom

where the teams were given time to present their work. The judges then moved to a private Zoom room and deliberated using the criteria:

- Project creativity
- Mental health awareness demonstrated
- Professionalism and quality of the work
- Public speaking and presentation of material (on the video and representative)

During the deliberation time, students and faculty from both countries chatted with each other as well as with the MSF staff. This time allowed for informal idea sharing and connecting across cultures. Once decisions had been made, the judges returned to the main Zoom room and announced the winners with cash prizes, certificates, and digital badges distributed the following day. Student participants were able to share these digital badges on social media and include them in their ePortfolios thus demonstrating their ability and desire to engage in global problem-solving.

Identifying Key-Outcomes of Hackathons

Yuan and Gasco-Hernandez, (2021) analyzed 19 hackathons across the US and identified some key outcomes: two of which were digital prototypes and public engagement and relationship building. Tying this to university work with NGOs, we see similar links in that some hackathons may produce prototypes to be used by the NGO. Students were informed in the current project that MSF may use any or parts of their work as desired and this spurred them on in the hopes of having work adopted by the NGO. It was important to have full transparency as to the end product ownership. We also found the students to be more interested and wanting to develop further relationships with MSF and international NGOs in general.

Hackathons provide opportunities for collaborative work on difficult issues whether those be close to home or on a global level. Multiple organizations including the National Science Foundation (NSF), National Aeronautics and Space Administration (NASA), the United Nations, and various cities such as Toronto (Open Social Innovation, 2021) have held hackathons to tackle varying social issues. Hackathons usually take place outside formal learning (such as coursework) and thus can encourage active engagement in more creative and fun approaches which may engage a wider range of students who might not feel as successful in formal learning. This provides another approach to inspire students across a range of learning styles.

In addition to engaging various learning styles, a range of skills can also be employed. Students who work in teams can each propose and tackle aspects of the work that they are most competent with or lack expertise. This has even worked in general communities with people of varying education levels such as the i-Hive event organized by Random Hacks of Kindness which runs socially oriented hackathons a couple of times per year in Australia. The goal is to connect people who want to make a difference and promote social change in their communities (Swist & Magee, 2019). Our work included US students from bachelor to doctoral levels and UAE master's degree students and the quality of the experience was similar across groups and they did form collaborations across abilities and interests. Endrissat and Islam (2022) stated that hackathons are *transdigital* as they take place physically (in varying locations) while also being embedded in digital connectivity. In our situation, some of the teams were fully remote and worked virtually, but this did not seem to lessen their enthusiasm or ability to be creative and engaged.

Aspects and Take-Aways of Hackathons

Whether remote or in-person, hackathons can serve as exciting platforms to promote international collaboration among students and link them to NGOs. They provide an engaging environment for students from different countries to work together on innovative projects. Here we propose ways that hackathons can be used and some aspects to be aware of:

1. Diverse Teams: We suggest forming teams with participants from various countries. This diversity brings different perspectives, cultural insights, and problem-solving approaches to the table.

2. Virtual Hackathons: Organizing virtual hackathons allow students from around the world to participate without the need for travel. Virtual platforms enable global collaboration regardless of geographical boundaries and are relatively easy with the preponderance and comfort level of virtual technology platforms.

3. Identify Global Challenges: Work with NGOs to identify specific challenges or problems that align with their missions and objectives and aim to place these within a global theme that would engage students from around the world. These challenges could be related to social justice, environmental issues, healthcare, education, poverty alleviation, or mental health as our work focused on.

4. Cross-Cultural Understanding: Encourage participants to share their cultural experiences and viewpoints during team discussions if possible. This promotes cross-cultural understanding and opens up opportunities for creative problem-solving. This can happen during presentations of the work when building in time for question taking.

5. Collaborative Problem Solving: During the hackathon, encourage participants to collaborate closely with NGO representatives and to align their projects to the mission of the NGO. This allows students to gain insights into the real challenges faced by the NGOs and ensures that the solutions are well-aligned with their needs.

6. Time Zone Consideration and Technology: Be mindful of time zone differences when scheduling hackathon events, ensuring that they are convenient for participants from different regions. Our work needed to include an extra day because of time zones and live virtual meetings need to be carefully scheduled to allow all to attend at reasonable times. We were able to use Zoom for virtual meetings which also allowed for recording the information sessions and presentations. Email and WhatsApp were used daily to send out encouraging videos and check-ins with participants. We also encouraged students to use collaborative tools such as google docs for shared document creation.

7. Global Judges and Prizes: Include judges from the NGO and/or various countries to evaluate projects. Offering prizes that align to the cultural groups involved in the work is important. In our situation, one country valued trophies and certificates more than cash awards so adaptations were made.

8. Post-Hackathon Networking: Create avenues for participants to stay connected after the hackathon ends. This could include online communities, social media groups, or platforms designed for ongoing collaboration or work with the NGO.

9. Professional Development: Provide certificates and digital badges shortly after the hackathon and encourage students to use these on their own social media sites such as LinkedIn. Explain how sharing these can show evidence of global engagement and may be positive to future employers.

10. Partnerships with International Institutions: Collaborate with universities and institutions from different countries to co-host the hackathon. This can broaden participation and enhance the global nature of the event. Collaborations provide learning experiences for faculty as well as students so encourage wider attendance during the final presentations in order to engage and support cross-cultural connections. Research ideas or co-teaching and learning experiences can come out of these types of virtual events.

Conclusions

In summary, promoting international collaboration through educational hackathons with NGOs not only enriches the learning experience for students but also can help foster global awareness, empathy, and the ability to work effectively in diverse teams. This paper has outlined our experience working across two universities in different countries in conjunction with the international NGO, Doctors Without Borders, and we offer 10 ways to approach this learning experience. Hackathons provide a creative way to engage students in helping to help solve problems in an increasingly complex world and can be part of a toolbox of ideas for universities to engage in.

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A Bleeding Edge or a Cutting Edge? A Systematic Review of ChatGPT and English as a Second and/or Foreign Language Learners' Writing Abilities

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WorldCALL 2023 – CALL in Critical Times
Conference Proceedings

Abstract
This systematic review, adhering to PRISMA guidelines (Page et al., 2021), examines the educational implications of ChatGPT, an AI language model by OpenAI, on the writing abilities of English as a Second and/or Foreign Language (ESL/EFL) learners. Relying on data from academic databases like Scopus and Web of Science, the review integrates both statistical techniques and qualitative content analysis to assess the model's multi-faceted impact. While ChatGPT offers benefits such as rapid grammar checking and word suggestions, empirical evidence suggests it may discourage the development of critical skills, such as reasoning and structure, that are crucial for academic writing. The paper delves into ChatGPT's role in potentially diminishing capacities for organization, cohesion, and grammar, thereby presenting a complex picture of its impact on ESL/EFL writing. Additionally, the review emphasizes the need for a balanced approach that includes initial writing, draft improvement, and editing. The review concludes by advocating for future research that explores adaptive curricular and alternative pedagogical strategies, such as peer review, teacher-student conferences, and scaffolding, that can foster independent writing skills among ESL/EFL learners. This work thus serves as a comprehensive guide for educators, teachers and policymakers to understand the nuanced impacts of ChatGPT and adjust educational practices accordingly.

Keywords: ChatGPT, EFL/ESL, Writing Skills, Teaching Strategies, AI Pedagogy

worldCALL
WorldCALL Conference 2023 in Chiang Mai, Thailand

Introduction

ChatGPT, developed by OpenAI in November 2022, has revolutionized natural language processing with its ability to emulate human writing across various formats by adapting its tone, lexical selection, and syntactic structure to a predetermined genre or format. The original GPT's ability to mimic human writing was groundbreaking. Though initially launched as a conversational chatbot, it is being utilized for various purposes, especially to produce an immeasurable amount of text that can mimic human writing to a vast degree in all formats, from formal to casual. It can also adjust word lengths, formats, and vocabulary while ensuring accuracy, based on the data fit was fed with, with minimal user help and guidance (West, 2023). On the other hand, ChatGPT provides valuable support for writing activities, offering suggestions for word choice and grammar and providing quick answers to factual questions. However, they require double-checking to ensure accuracy. All these attracted the attention of learners, educators, teachers and researchers.

Neverless, there are many concerns about the potential impact on the development of writing skills using ChatGPT, especially for ESL/EFL learners. For example, a concern raised that ESLEFL learners need practice in generating original ideas, organizing thoughts, maintaining cohesion, using proper grammar, and developing critical thinking skills. Another concern is the overreliance on ChatGPT for quick and effortless text generation, which could impede the development of these skills, claiming that it lacks personalization and cognitive processing, essential for effective language learning.

Moreover, plagiarism is an additional concern for teachers who argue that ChatGPT has also fooled multiple plagiarism checkers. Concerns about students cheating or utilizing ChatGPT to complete their work have risen to a strong degree, as have worries about students no longer investing time and energy in their writing skills (Roose, 2023). One of the main concerns is the fact that the students can open ChatGPT and type in a few keywords to have a long article ready in seconds that may have taken days, which provokes a concern about the future of students' writing abilities, attention span, vocabulary, ability to organize their thoughts, and cohesion in their own creative and original ways.

Rationale and Objective

The rationale for making this review systematic instead of a simple literature review is not only to highlight the rapid research updates on ChatGPT and its impact on writing skills per day but to pinpoint the upcoming research on ChatGPT and guide teachers on the possibilities to facilitate learners' writing. The researcher is initiating this review of the current literature on evaluating students' language skills through writing-based tasks and the rise of ChatGPT. The researcher also sought to understand how the regular usage of ChatGPT may affect the learners' writing skills, thereby impacting their language skills, including vocabulary, grammar, and punctuation. Hence, insights from this research could guide the design of curricula that capitalize ChatGPT's strengths in language learning acquisition and the importance of pedagogical decisions responsive to the impacts of ChatGPT on student learning. The review also helps inform policy and practice, advocating for using ChatGPT in educational settings to optimize students' learning outcomes.

Research Questions

This research addresses the following questions:

- How does the utilization of ChatGPT impact the writing proficiency of ESL/EFL learners?
- What are the potential benefits and challenges associated with integrating ChatGPT into writing activities for ESL/EFL learners?
- What are the English language teachers' perceptions towards approving or banning ChatGPT in classrooms?
- What are the English language teachers' suggested ways to overcome the damaging effect of ChatGPT on ESL/EFL learners' writing skills?

Method

Eligibility Criteria and Search Strategy

Given the niche nature of this topic and to reduce publication bias in the final sample of total papers, the researcher searched for not only journal articles but also books, book chapters, dissertations, and, most importantly, newspaper articles to gain an insider perspective on mainstream opinions about ChatGPT. The researcher excluded reading, speaking, and listening research, focusing only on ESL and EFL writing-related research. The exclusion criteria for studies relating to ChatGPT were based on the research's connection to developing students' writing skills (Figure 1). The search was conducted from February to June 2023. Though the main search was through Google Scholar, the researcher also searched through databases such as WorldCat, ResearchGate, Web of Science, Jstor, SCOPUS, SpringerLink, and ProQuest under ERIC. The researcher included studies that met the following criteria: Articles discussing ChatGPT or GPT-3 and articles with ChatGPT or GPT-3. Each of the final thirty relevant articles found had written the term "ChatGPT" with no spacing. Ultimately, "ChatGPT" was the final selected term. Each database search was conducted similarly.

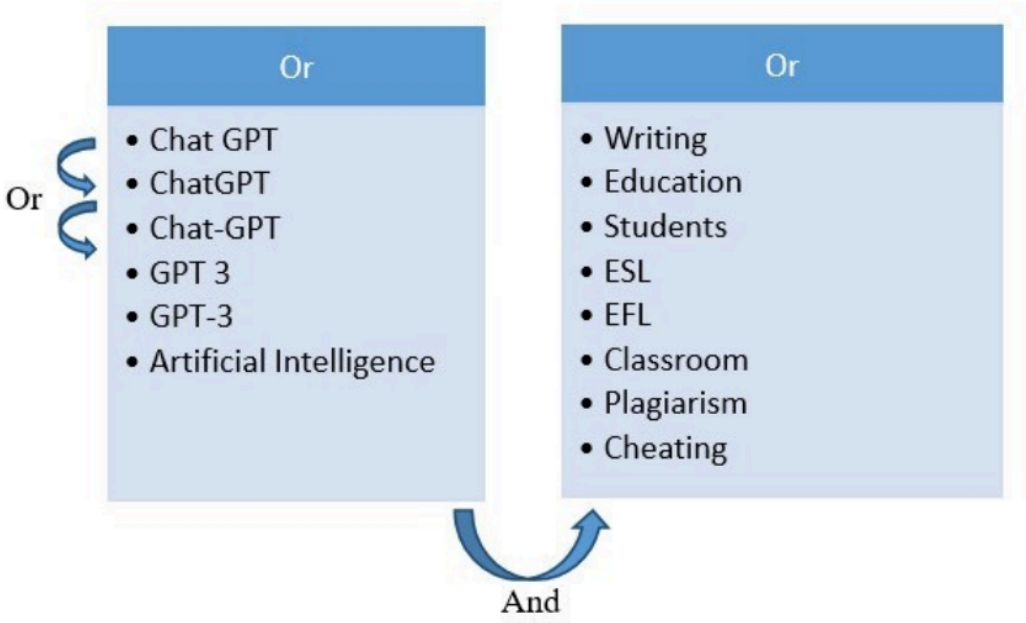

Figure 1: Composition of the search query with Boolean operators "And" and "Or" to indicate the systematic search

Research Design of Literature

The systematic review's research design adheres to the PRISMA criteria and checklist (Page et al., 2021), which are updated guidelines for reporting systematic reviews (PRISMA 2020 statement) that promote transparency and rigor in the review process. A comprehensive search of reputable databases is conducted to find peer-reviewed scholarly journals that focus on using ChatGPT to promote English writing skills for ESL/EFL learners. The inclusion and exclusion criteria are carefully established to select studies that address the research question, and the quality of the included studies is assessed using appropriate tools. Following a predefined protocol, data extraction is performed, and the findings from the selected studies are synthesized and analyzed to provide a comprehensive understanding of the effectiveness of using ChatGPT as a tool for enhancing the writing abilities of ESL/EFL learners.

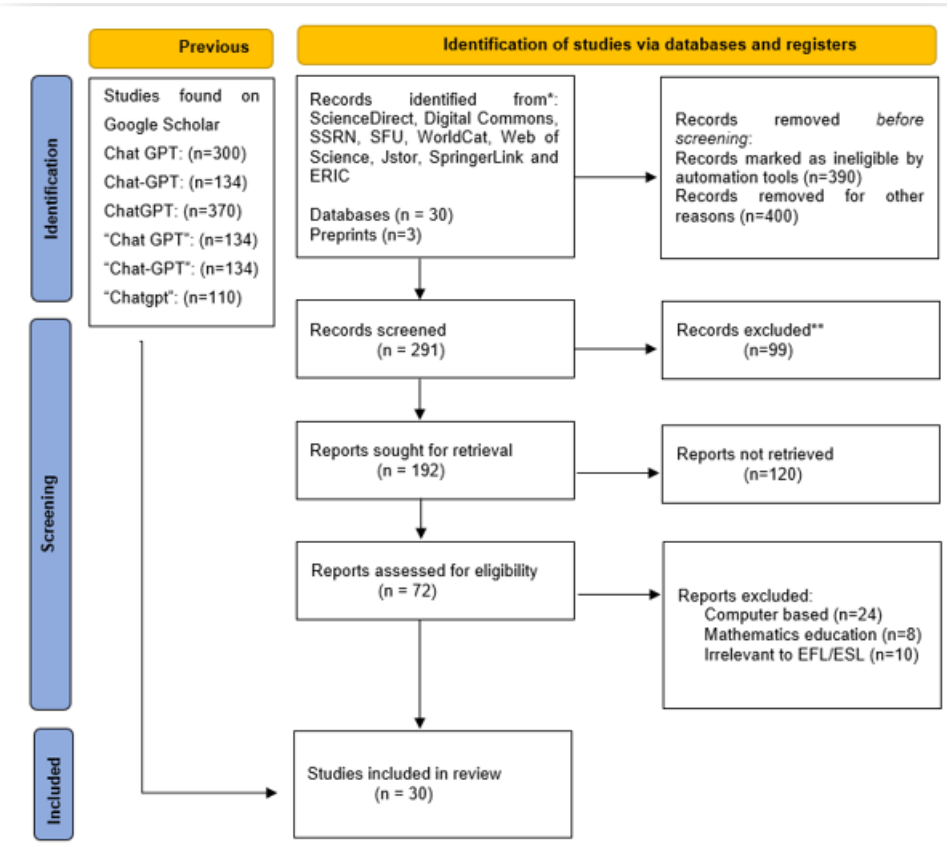

Figure 2: Research Design of Literature

Research on ChatGPT and ESL/EFL Writing

Writing is a crucial tool for cognitive processes, organizing thoughts, empathizing, and communicating effectively. Writing is a recursive process with hierarchical thinking processes that require self-composition (Flower & Hayes, 1981). Beyer (1988) differentiates thinking from thinking skills, suggesting that thinking is a process in which a learner manipulates sensory input. Conversely, thinking skills are described as operations that an individual utilizes to steer mental processes, as demonstrated in activities like writing. Most importantly, writing includes a conscious and concerted effort on the part of learners to encourage personal self-development. In ESL/EFL, English writing tasks-based teaching can help nurture organizing skills, outlining, and note-taking ability with feedback by teachers to

improve their drafts (Shabitha & Makela, 2023). Unfortunately, each of these factors is bypassed through the usage of ChatGPT, which reduces motivation to invest learners' time and energy into writing (Hang, 2023).

Rudolph (2023) argues that ChatGPT has been explored as a potential aid for ESL/EFL learners in improving and personalizing their writing skills; however, concerns about accuracy and ethical issues have been raised (Sebastian, 2023). Nevertheless, Yeadon et al. (2023) highlight that teachers' resistance to adapting to the technological changes in assessing student progress may hinder the potential aid ChatGPT offers. Moreover, Kasneci et al. (2023) suggest that ChatGPT can aid young children in developing writing skills through prompts and summarizing content, empowering learners with disabilities, and assisting in report writing. It also aids ESL students in summarizing, vocabulary explanations, and grammar.

Key Findings

The key findings revealed that ChatGPT, an AI-powered tool, has emerged as an effective solution for personalizing writing and self-assessment of written texts if used properly (Rudolph, 2023), facilitating grading and student engagement (Nguyen, 2023). Furthermore, ChatGPT aids in developing and organizing grammar and vocabulary and proves efficient in generating essay drafts (Lin, 2020), which leads to improved student engagement in the writing process (Zhao, 2023). Lin et al. (2023) emphasize the benefits of ChatGPT in teaching writing skills but caution about ethical boundaries and copyright issues. Kasneci et al. (2023) highlight the potential of ChatGPT in assisting young learners by providing prompts and summarizing content.

However, the implementation of ChatGPT in ESL/EFL education is not without challenges. Algaraady and Mahyoob (2023) found out that although ChatGPT is useful for finding superficial faults, it cannot substitute human teachers' knowledge and nuanced comprehension in recognizing problems pertaining to the more intricate areas of writing. Accuracy and resistance to technology in assessment remain concerns (Rudolph, 2023). While ChatGPT is beneficial for grammar and vocabulary, Lin (2023) highlights concerns about the accuracy of content, particularly in aiding conceptual planning and suggests utilizing ChatGPT for asynchronous communication and grading, but precautions should be taken to address issues like plagiarism and unfair advantages. Xiao (2023) notes that while ChatGPT aids in organizing essays, it may reduce learners' critical thinking and autonomous editing skills, underscoring the necessity for instructor guidelines. Ethical considerations also arise, particularly in distinguishing between AI-assisted writing and original student work. This raises potential issues of plagiarism and fairness among learners. Atlas (2023) provides a guide for learners to navigate ChatGPT, emphasizing the need to understand the software's capacities and ethical considerations. However, concerns remain about cheating, undermining writing skills, and inaccuracies generated by AI.

Teachers had varied reactions, from outright expulsions to incorporating the technology in their classes (Lin, 2023; Nguyen, 2023), especially the varied perspectives of English language teachers regarding the use of ChatGPT in classrooms highlight the importance of responsible and strategic application of this technology. The majority expressed that integrating ChatGPT into educational settings offers challenges. Teachers pinpointed the need to find a balance in integrating ChatGPT in learning writing, ensuring that it enhances learning outcomes without compromising creativity or academic integrity (Uzun, 2023).

Teachers agreed that academic integrity is challenging to maintain when learners find more accessible avenues to progress without their teachers being alerted to these issues. Hence, teachers can implement a combination of honor codes, a regulatory framework, discussions about ethics, and the use of AI detection tools to uphold academic integrity.

Discussion

ChatGPT has demonstrated its efficacy as a beneficial tool for improving the writing abilities of ESL or EFL learners. ChatGPT can easily inspire students with access to information and creative ideas and facilitate teaching writing. Its role in the initial drafting and idea generation stages can foster writing development, albeit with the necessary human input for refinement and critical thinking. This leads to the point that ChatGPT ultimately cannot replace the human element of writing, and the value of reflective, intentional writing to promote critical thinking skills is essential.

Nevertheless, the transformation of pedagogical methodologies in writing has numerous benefits. Still, the concern that humanity's capacity to think of creative ideas is unfounded. T it also has significant drawbacks for younger generations who have not yet developed their own writing styles, In addition, there is a possible decrease in the capacity of students to produce their own writing concepts in a well-organized fashion, which is a matter of worry among younger learners.

To effectively utilize ChatGPT, teachers should familiarize themselves with the AI by starting training to eliminate their unfamiliarity with using ChatGPT in teaching (Algaraady and Mahyoob, 2023). Moreover, they need to incorporate discussions about AI in coursework and encourage learners to include personal details in their writing and ensure the proper process of writing details. They can also use the scaffolding approach and plagiarism detection tools. On the other hand, educators and policymakers must adapt to technological changes and start developing conceptual regulatory frameworks after having transparent and open discussions with institutional stockholders, faculty and students.

As ChatGPT's design focuses on production, not assistance, teachers need to guide learners into a balanced AI integration with structured guidance (Yan, 2023), especially in writing the right prompts (Kasneci et al., 2023) and for higher-level writing tasks (Gayed et al., 2022). Furthermore, teachers need to uphold academic integrity (Uzun, 2023) and promote originality by teaching proper citation, critical thinking, the ethical use of writing aids, and regular monitoring of the use of plagiarism tools. This indeed comes with teachers ensuring the ethical use of the software (Atlas, 2023).

Several recommendations emerged for learners' progress in learning EFL and ESL writing, one of which is to ensure that teachers are personally involved in learners' progress. This means encouraging learners to write while teachers provide feedback for multiple draft improvements, as these techniques can teach learners the value of editing, organizing, proofing, and improving rather than simply producing. Teachers are recommended to use approaches emphasizing human-led writing activities and critical engagement, ensuring that ChatGPT supports rather than replaces these processes. As such, while recognizing the value of AI tools like ChatGPT, it is crucial to focus on human-led writing activities, especially in the context of ESL/EFL learning environments.

Conclusion

This systematic review seeks to comprehensively review the utilization of ChatGPT in enhancing the English writing proficiency of ESL/EFL learners. The review recognizes ChatGPT capabilities in automated tutoring and generating content. Nevertheless, it acknowledges the possible complications and obstacles when integrating ChatGPT into conventional writing teaching approaches. To optimize the benefits of ChatGPT while minimizing any possible risks, the review proposes implementing a well-balanced approach. It underscores the importance of teachers in conscientiously incorporating ChatGPT into the educational environment. Teachers and educational institutions should develop clear guidelines and criteria for utilizing ChatGPT.

It also proposes the incorporation of ChatGPT into language learning curriculum to augment learners' abilities in an academic setting. Nevertheless, it underscores the importance of ChatGPT as an assistant rather than a substitute for learners' critical thinking skills.

Further investigation is required to fully understand the influence of ChatGPT and to develop efficient approaches for teacher education programs. It is also important to further examine cultural reactions to AI tools and evaluate ChatGPT's effectiveness against other tools.

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Fostering Intercultural Competence Through Virtual Exchange in Japanese Higher Education

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Abstract

This research project investigates the experiences of Japanese university students who participate in virtual exchange programs and how students' intercultural competence enhances after the participation of a program. Intercultural competence is emerging as a significant educational skill in Japanese higher education, yet most intercultural competence frameworks have been developed by Western scholars with Western perspectives and often do not include other cultural views of intercultural competence. Moreover, intercultural competence frameworks have been designed on an assumption that interactions are carried out in physical contexts and do not yet appear to have been applied to online context. This research project, therefore, aims to examine the potentials of "virtual exchanges" to support the development of intercultural competence focusing on Japanese university students. The key research design tools are a self-inventory assessment, the Cultural Intelligence Scale (CQS) and semi-structured interviews. The results of CQS are processed with SPSS and conducted statistical analysis of paired data. Interview data is used for inductive thematic analysis. Both quantitative and qualitative data are then cross analysed. This paper will showcase preliminary results gained from a virtual exchange program, IVEProject. Statistical analysis from pre-and post-survey showed that among four capabilities from CQS - metacognitive, cognitive, behavioural, and motivational - the cognitive capability showed the most significant change. Based on qualitative data, some significance themes were identified which are often not prioritised in the dominant intercultural competence frameworks. Although further analysis is required to substantiate findings from surveys and interviews, the data revealed that virtual exchange experiences had a positive impact on students' development of intercultural competence.

Keywords: Intercultural Competence, Virtual Exchange, Japanese Higher Education

Introduction

This research project investigated the experiences of Japanese university students who participate in a virtual exchange program and examined the changes of their intercultural competence. As employment opportunities are globalised, developing intercultural competence is viewed as a vital component that a 21st century education ought to provide (Bennet, 1986; Byram, 1996; Deardorff, 2006; Ting-Toomey & Kurogi, 1998). To date, the development of the theoretical concept has led to various definitions of intercultural competence that have emerged in the field. In this study, three key frameworks are employed: 1) Byram's (1997) Intercultural Competence (ICC) model; 2) Deardorff's (2006) Pyramid and Process models; and 3) Earley and Ang's (2003) Cultural Intelligence model. These frameworks have been identified as influential models of intercultural communication in teaching and learning.

However, most intercultural competence frameworks have been developed by Western scholars, are based on Western perspectives, and often do not include other cultural views of intercultural competence (Dalib et al., 2014; Deardorff, 2004; Parmenter, 2003). Scholarly work on intercultural competence in a Japanese context continues to rely on Western conceptualizations that have been adopted in foreign language education (Deacon & Richard, 2022; Yashima, 2009). Moreover, intercultural competence frameworks have been designed on an assumption that interactions are carried out in physical contexts and as of yet do not appear to have been applied to online contexts.

The expansion of technologies is facilitating "virtual exchange," referring to the engagement of individuals and/or groups of learners in online interactions. Virtual exchange has increasingly become the focus of research attention among those interested in foreign language education and intercultural understanding (Lewis & O'Dowd, 2016). Many scholars advocate for virtual exchange as a powerful tool for developing intercultural competence (Belz, 2003; Dooly & Vinagre, 2022; Hagley, 2020; Lewis & O'Dowd, 2016; White et al., 2021; among others). For example, O'Dowd (2021) reports the various positive outcomes of virtual exchange such as improvement in foreign language abilities, flexibility, problem-solving skills, and digital literacy, which are very relevant for modern society. This study, therefore, aims to examine the potentials of "virtual exchanges" to support the development of intercultural competence focusing on the Japanese university students. This study will expand our understanding of how intercultural competence is manifested and developed in online contexts while questioning whether the predominantly Western conceptualisation of intercultural competence that has been adopted in foreign language education are appropriate for Japanese contexts.

Methodology

Participants

The participants of this study are Japanese university students, who are currently enroled in 4-year universities in Japan and who participated in the International Virtual Exchange Project (IVEProject) from May 2023 to June 2023. The IVEProject is an online platform for virtual exchange, where students interact based on the discussion topics provided (e.g., self-introduction, about my hometown, events in our lives, etc.). The significant feature of this project is its diversity of participants' cultural background. To date, students from 15 different

countries on average have participated in each 8-week programs. This cultural diversity allows for participants' authentic interactions using English as Linga Franca (ELF).

Data Collection

This study adopted a mixed-method approach. While acknowledging the difficulty and complexity of measuring intercultural competence, Deardroff (2006) notes that evaluating intercultural competence through a mixed-method qualitative and quantitative format is preferable. This study used Earley and Ang's (2003) Cultural Intelligence Scale (CQS), a self-inventory instrument, to comprehend how participants' intercultural competence shifts over time. CQS includes a 20-item questionnaire based on a 7-point Likert scale from strongly agree to strongly disagree to rate the participants' answers to the 20 statements. Each one-item scale gauges a metacognitive, cognitive, motivational, and behavioural description of the participants. Before engaging in the IVEProject, the participants were asked to complete the pre-survey, and those who completed the pre-survey were asked to complete the post-survey again at the end of the IVEProject. In addition to the questionnaire, this study also used semi-structured interviews to explore in-depth data of participants' virtual exchange experiences, and to investigate their perceptions of intercultural competence. Individuals who successfully completed both pre- and post surveys and expressed their willingness to participate were invited to the interview phase (n. 7). The interviews were conducted in Japanese either in person or via Zoom for no more than 60 minutes and all interviews were recorded and transcribed. The interview data were exported to NVivo 14. At this point, the coding was conducted without translating into English. The translation of the data to English occurred after the completion of the coding process in its first stage. In the interviews, CQS results were used as prompts to guide the conversation. Questions prompts were employed with questions referring to *Autobiography of Intercultural Encounters (AIE)* (Byram, 1997). This approach allowed the respondents to have an opportunity to learn about themselves and their own way of thinking (Matsumoto, 2020).

Results and Discussion

Quantitative Findings

I statistically compared the pre- and post CQS results of the IVEProject. 109 students filled in the pre-CQS, and 26 students filled in the post-CQS. Three students were excluded from the analysis as their emails appeared to be duplicated. This resulted in a final sample of 23 participants who filled in the pre- and post CQS.

For statistical analysis, I transformed the 7-point Likert-scale data into numerical values 1-7 followed by calculating the means of each dimension: metacognitive, cognitive, motivational, and behavioural. I then processed the mean scores in SPSS statistics and performed the paired-samples t-test. While the sample size may appear relatively small for conducting the paired-sample t test, it is sufficiently robust to undertake the test effectively. The results of the findings are summarised in Table 1 and 2.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Pre_MC	4.9601	23	.95077	.19825
	Post_MC	5.2935	23	.81761	.17048
Pair 2	Pre_COG	4.9601	23	.95077	.19825
	Post_COG	3.9203	23	.98840	.20610
Pair 3	Pre_MOT	4.4696	23	1.07806	.22479
	Post_MOT	4.6000	23	1.34840	.28116
Pair 4	Pre_BEH	5.4174	23	1.14877	.23954
	Post_BEH	5.3130	23	1.14547	.23885

Table1: The results of the paired samples statistics

Paired Samples Test

		Paired Differences					t	df	Significance	
					95% Confidence Interval of the Difference					
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			One-Sided p	Two-Sided p
Pair 1	Pre_MC - Post_MC	-.33333	.92147	.19214	-.73181	.06514	-1.735	22	.048	.097
Pair 2	Pre_COG - Post_COG	1.03986	1.05405	.21979	.58405	1.49566	4.731	22	<.001	<.001
Pair 3	Pre_MOT - Post_MOT	-.13043	.90776	.18928	-.52298	.26211	-.689	22	.249	.498
Pair 4	Pre_BEH - Post_BEH	.10435	.51476	.10734	-.11825	.32695	.972	22	.171	.342

Table 2: The results of the paired samples test

A comparison between pre (T1) and post (T2) CQ mean scores is presented in Table 1. MC represents metacognitive CQ, COG represents cognitive CQ, MOT represents motivational CQ and BEH represents behavioural CQ. The results indicated the changes noted in each CQ dimension. As shown in Table 1, Cognitive dimension showed the most significant change (-20.9%) followed by - in diminishing ranking order - metacognitive, (6.7%), behavioural (-1.9%), motivational (2.9%) dimensions.

I conducted a paired-samples t-test to determine the significance of the changes for each of the CQ dimensions. The results of paired samples t-test are summarised in Table 2. The results obtained for this group (n=23) were as follows: (1) Metacognitive changes were *not significant* at $p = 0.97$, with the value of $t = -1.735$; (2) Cognitive changes were *significant* at $p < 0.01$, with the value of $t = 4.731$; (3) Motivational changes were *not significant* at $p = 4.98$, with the value of $t = -0.689$; (4) Behavioural changes were *not significant* at $p = 0.342$, with the value of $t = 0.6$.

Among all four CQ, significant change was detected in cognitive CQ. Cognitive CQ refers to knowledge about various cultures and cultural differences including both general cultural knowledge on cultural issues and specific knowledge about certain cultures. This result can be interpreted as signifying that the individuals experienced a form of cognitive dissonance, a discrepancy between one's beliefs, attitudes, or experiences through interaction in the virtual exchange. In this case it can be explained that these students initially believed they had sufficient culture-general knowledge, or context specific knowledge but the online interactions uncovered a gap or inconsistency in their understanding. By reflecting on online interactions, students noticed the discrepancy which can be a valuable part of intercultural competence development. These results indicated that virtual exchange provides some encouraging impact on the participants' cognitive dimension of intercultural competence.

Qualitative Findings

For qualitative data, this research adopted inductive thematic analysis. In the field of intercultural competence, as there is an abundance of prior research and existing models, employing deductive perspectives from previous studies is essential. However, there is a possibility of presenting a unique perspective that has not been included in the existing models. Hence, this study employed an inductive analysis to capture newly emerging perspectives that may have been overlooked. Drawing from the existing models, knowledge, skills, and attitudes - formed the foundational dimensions of the coding manual. The coding process were referred to Braun and Clarke (2006)'s step-by-step guide which were divided into six phases. The total number of themes extracted from the interview as presented in Table 3.

Knowledge	Skills	Attitudes
Intercultural knowledge (n. 5)	Multiperspectivity (n. 3)	Proactiveness (n. 4)
Communicative knowledge (n. 4)	Acknowledge the differences (n. 2)	Inclusive attitude (n. 4)
	Attentive listening (n. 2)	Politeness (n. 4)
		Empathy (n. 1)

Table 3: Emergent themes from the interview data. *() is the number of respondents

Knowledge

The results indicated that the most frequently cited keyword was having intercultural knowledge, followed by communicative knowledge. The following are excerpts from the interviews:

> *"In the end, gaining knowledge to understand the other person is probably the most important in intercultural understanding." (Student D)*

> *"I think gaining new knowledge and learning new things contribute to intercultural understanding." (Student G)*

These students put the significance on possessing intercultural knowledge or knowledge of mutual interests, to initiate and form their discussion, and having further in-depth and sustainable conversations. According to them, by sharing not only cultural knowledge but also knowledge of mutual interests (e.g., gaming, anime), they gained insights into each other's perspectives, which lead them to foster mutual understanding. While possessing intercultural knowledge was valued, several students articulated their experiences of not receiving replies to their posts despite they wanted to have continuous interactions. To address the issue, the Japanese students endeavoured to adopt a more casual tone by incorporating emoji or focused on their proficiency in writing English. Hence, these students' reflections may arise from their experiences of lacking continuous interactions or a lack of responses to their posts.

Another frequently cited word from a knowledge dimension is communicative knowledge, which includes linguistic and socio-linguistic knowledge. Here are excerpts from the interviews:

> *"What I'm consciously doing is waiting for the other person to finish the sentence completely. Japanese people are often said to use a lot of backchanneling, right? So, I let the speaker finish the sentence, and then I use backchannels and similar expressions to communicate." (Student D)*

> *"Through virtual exchange, I reacknowledged that English is the common language. In intercultural communication, having English skill is indispensable to have in-depth conversations." (Student B)*

These results aligned with the finding discussed in the previous section, in which cognitive knowledge was highly emphasized in intercultural communication. When using a foreign language as a medium for intercultural communication, language including proficiency, sociolinguistic understanding and pragmatics knowledge are crucial for successful intercultural encounters (Kaemper, 2009). These students highlighted the acquisition of enhanced English skills, but not limited to linguistic skills, as imperative for facilitating smooth communication and cultivating mutual understanding.

Skills

Three students valued having flexible thinking skills including having various perspectives, not being bound by fixed ideas, and not denying others' ideas. The following are examples of their responses:

> *"There are various and different ways of thinking about things, so I try to think that even if it's different from my own, well, that's just how it is. I try not to have judgemental views and instead, I try to accept it as much as possible." (Student A)*

> *"I believe it is important to question social stereotypes." (Student F)*

From these statements, it is observed that these students prioritise open-minded, and flexible thinking skills over being critical to other's perspectives or practices. In other words, they place importance on embracing multiple perspectives. This may not necessarily correspond to Byram's ICC model (1997), where critical cultural awareness takes precedence. As Davis and Cho (2005) emphasize, the ability to see things from multiple perspectives, rather than confined to a single viewpoint is valued among Japanese students.

Attitudes

A significance finding from attitudinal dimension is that among the seven students, three students emphasized the significance of verbally expressing their thoughts which can be labelled as having autonomy or proactiveness. The following are excerpts from the interviews:

> *"I got the impression that foreign students hold their opinions and express their thoughts without hesitation. They are not influenced by others' perspectives or align their opinions with those of others. I feel like I want to apply that to myself." (Student C)*

> *"I have a strong awareness that when speaking to people from other countries, I need to express myself clearly." (Student E)*

Byram's ICC model and Deardorff's Pyramid and Process models include cultural curiosity, openness, and respect in the attitude dimension. While politeness and inclusive attitudes were appreciated by Japanese students, a greater emphasis was placed on proactiveness and active engagement in communication. Furthermore, based on their statements, it was noted that being able to articulate one's thoughts in intercultural communication - in other words, conveying one's messages in a way that is understood by others is valued by Japanese students. In fact, several interviewees articulated their fears of speaking English in a physical context. They found it more comfortable to engage and communicate in English within an online context. This may be explained that Japanese students in the IVEProject were able to take their time to comprehend the posts, and construct replies in English. Consequently, online environment was effective for the Japanese students in gaining confidence in intercultural communication.

Another insight gleaned from the interview data was that Japanese students were aware that self-expression holds significance in intercultural communication. Several students expressed that when having communication in English, they tend to articulate their thoughts more freely compared to when communicating in Japanese. It was observed that when communicating with individuals in intercultural settings, Japanese students transitioned from adaptive conformity to proactive and self-expressive communication.

Conclusion and Limitation

The study has highlighted various significant implications for educational practice and future research. It is evident that virtual exchange plays a role in fostering students' intercultural competence. Regarding the question concerning whether certain aspects of intercultural competence were affected by the participation of virtual exchange, cognitive development of CQS was observed. As for the Japanese perception of intercultural competence, based on the interviews several keywords and their significance were identified which were insightful in acquiring a more nuanced understanding of intercultural competence at specific cultural settings. Yet, given that these findings are preliminary in nature, further in-depth analysis needs to be undertaken.

This study has several limitations despite the above findings and implications. First, although the sample size is sufficient to undertake the paired-sample test, it would be ideal if the sample size was larger. In addition, examinations into different types of virtual exchange (e.g., synchronous virtual communication, asynchronous virtual communication) to further understand its impact and effectiveness in intercultural competence development is needed. Lastly, this study has adopted an inductive thematic analysis for the qualitative data. In the future, it would be beneficial to conduct a deductive thematic analysis using predefined themes from existing intercultural frameworks and cross analyse between inductive and deductive themes.

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Autonomous L2 Learners Navigating the Digital Wilds: A Complexity Theory Perspective

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Abstract
This study employs a Complexity Theory-oriented longitudinal qualitative case study to explore the experiences of five autonomous second language learners in digital environments. Two research questions guide the study: how digital tools and resources mediate learners' experiences, and how technology interacts with the development of identity, motivation, and autonomy. Findings reveal that learners utilize a wide array of digital resources in a highly personalized manner, influenced by their goals, interests, and life contexts. The study also uncovers complex interactions between technology and learners' identity, motivation, and autonomy. The research contributes to scholarly discussions in Second Language Acquisition and Computer-assisted Language Learning by offering a holistic, life-wide approach to language learning. It also provides methodological and pedagogical insights, advocating for the role of educators in fostering learners' agency and mindfulness in digital language learning contexts. The study concludes by suggesting future research directions, including the impact of emerging generative AI technologies on autonomous life-wide language learning.

Keywords: Digital Wilds, Complexity Theory, Learner Autonomy, Autonomous Language Learning, Learner Needs, Learner Agency

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Introduction

In an era where digital technology permeates every aspect of our lives, the landscape of language learning is undergoing a significant transformation (Godwin-Jones, 2018). No longer confined to the four walls of a classroom, language learning has expanded into the "digital wilds"—a term that encapsulates the myriad of informal, online spaces where learning occurs (Sauro & Zourou, 2019). These digital environments offer a plethora of resources and platforms, enabling learners to customize their educational journey according to their unique preferences and needs (Reinders & Benson, 2017).

However, navigating the digital wilds is not a straightforward endeavor. It involves a complex interplay of factors such as motivation, identity, and autonomy, all of which are mediated by technology (Benson, 2011; Godwin-Jones, 2019). This complexity calls for a theoretical framework that can capture the nuanced, dynamic nature of language learning in digital contexts. Enter Complexity Theory, a lens that allows us to understand language acquisition as a non-linear, interconnected, and emergent process (Larsen-Freeman, 1997; Kramsch & Whiteside, 2008).

Additionally, although we agree that language learning is intrinsically linked to real-life experiences and reject the notion that classrooms are isolated containers of educational activity, it is worth noting that second language acquisition research has a heavy reliance on academic samples—mostly university students (Plonsky, 2016). This sampling bias has led to calls for more diverse research subjects, including a Call for Participation for SLA research in non-academic samples by the journal Language Learning (2019). Research on non-academic learners is crucial as it can offer new insights into sustaining language learning in life-wide settings and its associated challenges.

This paper aims to address this gap by exploring the unique experiences of autonomous L2 learners in the digital wilds, focusing on how they utilize digital tools and resources and how these tools interact with their learning journey. Guided by Complexity Theory, we investigate the following research questions:

1. What digital tools and resources mediate the learners' learning, and in what ways?
2. How does technology interact with the development of identity, motivation, and autonomy during the learning journey?

Complexity Theory and Language Learning

Complexity Theory offers a comprehensive lens for understanding the intricate, dynamic nature of language learning. Originating from disciplines like physics and biology, Complexity Theory has found its way into the social sciences, including second language acquisition (SLA) (Davis & Sumara, 2006; Larsen-Freeman, 1997). This theoretical framework posits that language learning is not a linear process but rather a complex system influenced by a multitude of interconnected variables (Kramsch & Whiteside, 2008). It allows us to investigate how learners construct and sustain their learning by examining the interconnectivity and entanglement of various factors within the learning system. This perspective is particularly relevant for understanding the complexities of navigating digital learning environments, where the variables are not just numerous but also highly fluid (Douglas Fir Group, 2016).

Complexity Theory-Oriented Studies on Language Learners

While Complexity Theory (CT) has gained theoretical traction in the field of second language acquisition (Herdina & Jessner, 2002; Larsen-Freeman & Cameron, 2008), there exists a noticeable gap between the theory's promise and its empirical applications in language learning research (Ecke & Hall, 2013). Much of the empirical work has focused on the four language skills—reading (Zhang, 2010), listening (Dong, 2016), speaking (Yu & Lowie, 2019), and writing (Kusyk, 2017; Spoelman & Verspoor, 2010). These studies have shown that language development is highly variable and influenced by a complex interplay of internal factors like cognition and emotion, as well as external factors such as school and social contexts.

However, process-oriented studies that document language learning through a CT lens are relatively scarce but are gaining momentum (Castro, 2018; Pellerin, 2017). These longitudinal studies offer detailed insights into the dynamics and nonlinearity of language learning by focusing on individual learners. For example, Castro (2018) explored the motivational trajectory of a Brazilian university-level EFL student in a language advising context. The study documented the dynamics of motivational fluctuations and identity fractalization as the learner interacted with the language advisor over time. More research is needed to understand language learning in today's technology-mediated environments through a CT lens, especially focusing on the strategies and challenges of life-long learning in these dynamic contexts.

Methods

This study employs a qualitative multiple-case study design informed by Complexity Theory to explore the experiences of autonomous L2 learners in digital environments.

Participants

Participants for this study were recruited from two distinct online platforms: an alumni forum of a university specialized in foreign language studies located in the multilingual city of Shanghai (where the researcher had been an undergraduate student), and an online Spanish-learning interest group called 'Spanish Corner' (where the researcher had been a member). The focus of this study is on non-academic samples (workplace adults) to explore life-wide learning. Recruitment messages were sent out to both the alumni forum and the interest group in June 2019. The criteria for inclusion in the study are detailed in Table 1. Five focal participants were ultimately selected, each demonstrating active engagement in language learning within digital wilds.

Inclusion criteria
• Self-identify as motivated and autonomous language learners • Actively conduct/plan/organize language learning, or have experience learning with the help of digital tools (e.g., using videos, using learning apps, playing games in a foreign language, etc.) • Have graduated from school and entered into workplace

Table 1: Inclusion criteria for the study

Data Collection

Data were collected through a variety of methods to capture the complexity of the learning experiences:

- Semi-structured interviews across a year
- Retrospective narratives
- Participant-generated photography and follow-up interviews (Prosser & Loxley, 2010)
- Artifacts (e.g., screenshots of digital platforms used)
- Reflective learning journals (optional)
- Observations and field notes

Data Analysis

Initially, a thematic analysis (Braun & Clarke, 2006) was conducted, guided by a Complexity Theory-oriented approach. The analysis aimed to understand the interplay between various factors such as digital tools, identity, motivation, and autonomy in shaping the learners' experiences. After the thematic analysis, a comparative case analysis (Yin, 2018) that involved comparing individual themes and patterns among the participants, examining whether there were replicative relationships across cases, and identifying important differences among the cases to answer the research questions of this study was conducted.

Findings

Research Question 1: What Digital Tools and Resources Mediate the Learners' Learning, and in What Ways?

The findings reveal that each learner engaged with a diverse array of digital tools and resources, ranging from natural media text and structured materials to digital dictionaries and time-management apps. This diversity was facilitated by the expansive digital landscape, offering each individual a wealth of choices tailored to their unique learning goals, interests, and personal lives. Participants demonstrated a high level of awareness and purposefulness in selecting and utilizing these digital resources, making their choices highly personalized and aligned with their broader life roles and vernacular technology use.

Metaphorical Understandings of Technology

The study found that participants' interactions with technology could be understood through various metaphors (Reinhardt, 2020), each highlighting different facets of technology's role in language learning:

- **Tools**: All participants used digital tools like dictionaries to facilitate learning. However, this metaphor falls short in capturing the socially networked nature of some tools.
- **Ecology**: This metaphor emphasizes the environmental aspect of the digital landscape but doesn't fully capture the agency learners have in selecting and orchestrating resources.
- **Windows**: Technology serves as a window through which learners can observe authentic language uses and cultural practices.
- **Doorways**: This metaphor signifies the participatory nature of Web 2.0 platforms in collective knowledge building.
- **Mirrors**: Digital platforms such as social media are used for identity work, allowing learners to reflect on their learning journey.
- **Playgrounds**: This metaphor captures the playful disposition learners have towards exploring and experimenting in digital spaces.

- **Extension of Self**: Technology can extend the learner's capabilities, but this relationship requires mindful management to prevent overreliance that could hinder meaningful learning.

Co-adaptation Between Learners and Technology

A noteworthy finding is the co-adaptation relationship (Larsen-Freeman & Cameron, 2008) between the learner and technology. Data analysis revealed a two-way dynamic: learners both used and were influenced by technology. As one participant, Y, pointed out, navigating the digital wilds is not a straightforward task. Without mindful management and a high level of awareness, learners risk overextending their sensory engagement, leading to issues like overdependence on social media or addiction to certain facets of technology. Such overreliance can hinder deep and meaningful learning. Conversely, when technology is used with intent and awareness, it can offer enriching learning experiences and extend learners' capabilities in beneficial ways. The findings suggest that successful autonomous learners need a critical disposition towards technology and constant evaluation of their relationship with the technologies they interact with.

Research Question 2: How Does Technology Interact With the Development of Identity, Motivation, and Autonomy During the Learning Journey?

Identity

All participants intentionally used technology for L2 learning in alignment with their multiple roles and identity needs. A recurring pattern was the cultivation of new and preferred "transportable identities" originating from their interactions within the digital wilds. Some participants also developed a "learner identity" characterized by innate curiosity, openness to different perspectives, and an appreciation for diversity. Technology acted as a "a place for curiosity and inquiry," enabling learners to indulge in interests, practice thinking, and engage with like-minded individuals. This learnful disposition towards self-realization fueled motivation and empowered autonomy.

Motivation

Motivation was a cornerstone of the participants' L2 learning journey. While each individual presented a unique motivational trajectory, a commonality was the enjoyment derived from the language learning process, both offline and online. This enjoyment led to the autonomous initiation and sustenance of learning, becoming a habit integrated into their lives. The findings suggest that technology-mediated language learning becomes enjoyable when aligned with learners' purposes, values, beliefs, identities, interests, and preferences.

Autonomy

The study highlighted the role of collaborative autonomy development, as facilitated by technology's connectivity features. Participants developed essential skills for independent learning, aided by digital tools. Their autonomy extended beyond language learning to navigating the contemporary connected world for productive engagement in personal, social, and civic dimensions. The findings indicate that navigating the digital wilds can promote autonomy by developing a critical awareness of technological mediation and language choices, empowering learners to make meaningful decisions.

Discussion and Conclusion

Theoretical Contributions

This research contributes to multiple academic domains, including Second Language Acquisition (SLA), Computer-assisted Language Learning (CALL), and Education. By employing Complexity Theory (Larsen-Freeman & Cameron, 2008), it advances our understanding of how technology interacts with learners in life-wide settings, thereby enriching discourses on identity (Lam, 2000), motivation (Dörnyei, 2009; Ushioda, 2011), and autonomy (Benson, 2011). The focus on workplace adult learners addresses the sample bias concern raised in previous research (Plonsky, 2016).

The study adopts a holistic, life-wide approach inspired by Complexity Theory (CT), contributing to emerging literature on CT-inspired language learning. It offers applied linguists and educationists a non-reductionist framework for studying "individuals acting in context" as holistic units (Larsen-Freeman, 2017, p.29).

Methodological Contributions

Methodologically, this study pioneers the use of a Complexity Theory-oriented longitudinal qualitative case study, a methodology recently applied in similar studies (Castro, 2018). It also incorporates innovative data collection methods like participant-generated photography (Prosser & Loxley, 2010) and retrodictive narratives (Dörnyei, 2014), setting a precedent for future research.

Pedagogical Contributions

Pedagogically, this study has several implications. It highlights the critical role of language educators in fostering autonomous, personally significant, and socially transformative language learning in the 21st century. The findings suggest that educators can guide students in the effective use of technology, helping them develop agency and mindfulness. Educators can also engage learners' voices in classrooms, discussing the value of language learning and giving them agency in assignments and projects. By understanding students' multiliteracy needs, educators can help them realize the affordances offered by life-wide literacy practices. The study also advocates for the creation of supportive and open learning communities, both online and offline, where learners can share strategies, resources, and experiences, fostering collaborative autonomy.

Future Research Directions

It is worth noting that this study was conducted before the rise of generative AI. The advent of generative AI technologies offers exciting prospects for future research. These technologies could further influence the dynamics of learner autonomy, motivation, and identity in digital learning environments.

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Digital Storytelling for Better Language Learning in a Post Pandemic World

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Abstract
The purpose of this research is to compare digital storytelling (DST) in a remote course, held in the spring term of 2022 during the pandemic, with that of a traditional face to face (F2F) course, held in the fall term of 2019 before the pandemic, in terms of student learning motivation. The findings suggest how to conduct DST for more effective language learning in F2F courses, by utilizing what was learned through remote learning. This study reports how DST assignments were perceived by students in the remote learning course in 2022 by comparing them with the result of an F2F course held in 2019. In both courses, the study goal was to acquire skills and knowledge to present ideas and messages effectively with the use of ICT (Information and Communications Technology) and English. There were two main assignments in both courses: storytelling (ST) as the midterm assignment and DST as the final assignment. The participants' department (ICT-related major) and English proficiency level (basic or intermediate level) are similar, and conditions were almost identical in both courses except for the course styles; F2F and remote learning. Thirty students enrolled in each course, and of these, 16 students in the F2F course in 2019, and 20 students in the remote learning course in 2022 answered all the questionnaires (pre, midterm and post), had taken two tests (midterm and final), and agreed to participate in this research. Although the results of this study cannot be generalized due to the small sample sizes, it can be said that DST in remote classes was received positively in terms of learning motivation in general by most students. The results suggest that DST with optional Zoom support meetings and recorded video materials could become effective aids in future F2F courses. The changes in educational methods brought about by the COVID-19 pandemic could become a good opportunity for better education in the future. Future F2F courses would be better than traditional F2F courses by integrating what has been learned during the pandemic.

Keywords: Digital Storytelling, Face-to-Face (F2F), Remote Learning, Motivation

1. Introduction

Though the COVID-19 pandemic triggered changes to our educational systems, some changes have brought about positive impacts on our learning and teaching. While welcoming the return to face-to-face (F2F) learning, this study aims to seek more effective F2F learning approaches than before the pandemic.

The purpose of this research is to compare digital storytelling (DST) in a remote course, held in the spring term of 2022 during the pandemic, with that of a traditional F2F course, held in the Fall term of 2019 before the pandemic, in terms of student learning motivation. The findings suggest how to conduct DST for more effective language learning in F2F courses, by utilizing what was learned through remote learning (Figure 1).

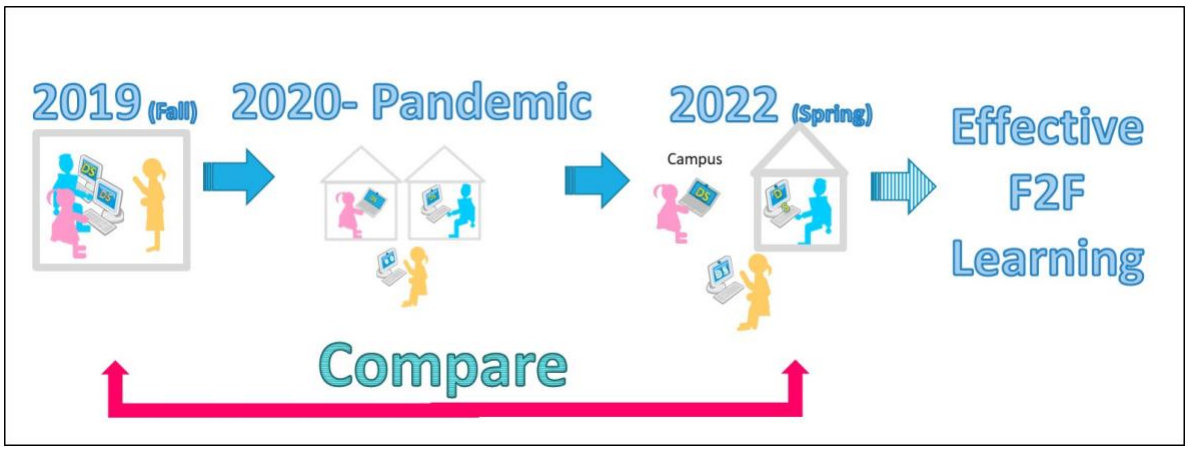

Figure 1: Seeking better learning

This study reports how DST assignments were perceived by students in the remote learning course in 2022 by comparing them with the result of an F2F course held in 2019 using the following research questions:

RQ1: What were the impacts of ST and DST assignments on students' motivation in F2F and remote courses?
RQ2: What were the pros and cons of the courses from the perspective of students in the remote learning environments?
RQ3: What changes have occurred in student comments about DS courses before and after the pandemic?

2. Method

Participants

In the spring term of 2022, two courses were conducted with 90-minute synchronous Zoom meetings held approximately every two weeks, and additionally, a few optional support meetings were held on Zoom for students who sought individual support. The teaching materials (PDF and video) were shared on the learning management system (LMS). The courses were conducted in a similar manner to the courses held in the spring term of 2021, whose detailed information was reported in previous studies (Kasami, 2022). One of two classes, selected from the results of the pre-questionnaire, with slightly lower and almost equal motivation levels to an F2F class held in the fall term of 2019 was selected for this research (Figure 2). This is because in order to evaluate the effectiveness of remote learning,

it is necessary to make other conditions (faculty, subject, etc.) consistent and comparable with the F2F classes.

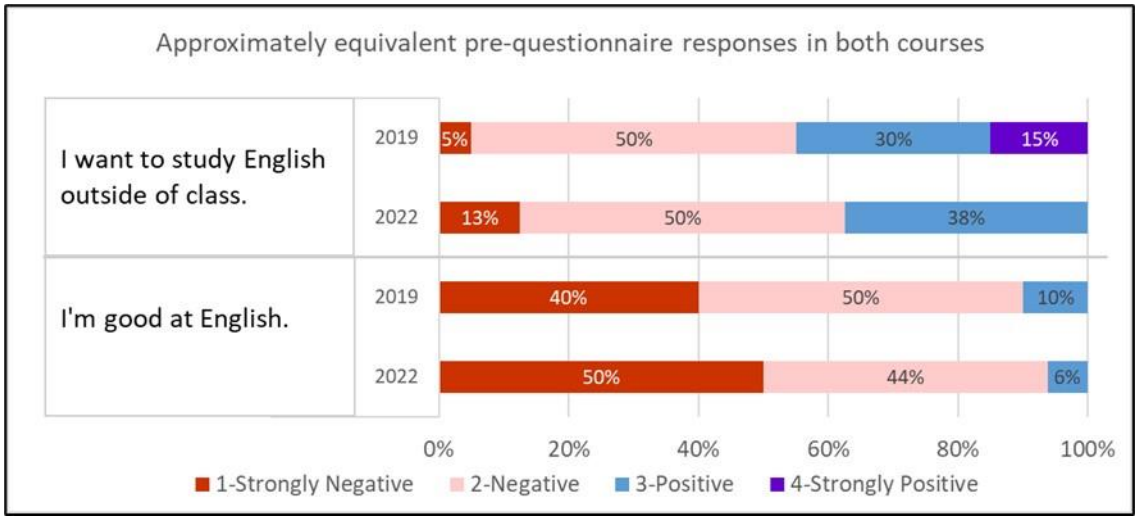

Figure 2: Approximately equivalent pre-questionnaire responses

The objects of this study are an F2F course held during the fall term of 2019 (September 2019 to January 2020), and a course in remote learning held during the spring term of 2022 (April to July 2022). In both courses, the study goal was to acquire skills and knowledge to present ideas and messages effectively with the use of ICT (Information and Communications Technology) and English. There were two main assignments in both courses: storytelling (ST) as the midterm assignment and DST as the final assignment. The participants' department (ICT-related major) and English proficiency level (basic or intermediate level) are similar, and conditions were almost identical in both courses except for the course styles; F2F and remote learning. Thirty students enrolled in each course, and of these, 16 students in the F2F course in 2019, and 20 students in the remote learning course in 2022 answered all the questionnaires (pre, midterm and post), had taken two tests (midterm and final), and agreed to participate in this research.

Like the previous study (Kasami, 2017), questionnaires were conducted using Google Forms and the three questionnaires (pre-, midterm- and post-) were employed to collect the necessary data. In both courses in 2019 and 2022, the students were asked to rate both ST and DST assignments with scores ranging from one to nine, where the greater numerical value represented a stronger motivating factor. The questionnaires were set according to sub-categorical items using a semantic differential scheme which asked the students to indicate their feelings about the assignments by selecting the degree of vagueness or clarity and other aspects on the scale. For example, the lowest score of 1 indicates that the assignment was too vague; a middle score of 5 indicates a neutral response, and the highest score of 9 indicates that the assignment was very clear. The question items used a semantic differential scheme that was in line with the study by Suzuki et al. (2004), which was based on Keller's ARCS motivational model (2010).

3. Results and Discussion

3.1. Results

ST and DST in F2F Learning in 2019 and Remote Learning in 2022

In the case of ST, the average point of each category of ARCS was quite similar (the gap between the two average points was only 0.13), while in the case of DST, the average points of some categories of ARCS tended to be higher in 2022 compared with those from 2019 (Figure 3). In 2022, the highest average points among 12 subcategories were shown in R1 (Goal Orientation, 7.63), R2 (Motive Matching, 7.56), S2 (Extrinsic Rewards, 7.38), and S3 (Equity, 7.38). The greatest gap between the two courses were seen in the aspects of subcategories of R1 (Goal Orientation, 0.88), C1 (Learning Requirements, 0.84), and R2 (Motive Matching, 0.76).

ST: Storytelling

ARCS	F2F-2019(n=20)	Remote-2022(n=16)	Gap
Attention			
A1 Perceptual Arousal	7.45	7.19	-0.26
A2 Inquiry Arousal	6.55	6.38	-0.18
A3 Variability	6.10	6.31	0.21
Relevance			
R1 Goal Orientation	6.65	6.31	-0.34
R2 Motive Matching	6.90	7.00	0.10
R3 Familiarity	5.85	6.25	0.40
Confidence			
C1 Learning Requirements	5.75	6.06	0.31
C2 Success Opportunities	6.35	5.88	-0.48
C3 Personal Control	5.45	5.81	0.36
Satisfaction			
S1 Intrinsic Reinforcement	5.65	5.88	0.23
S2 Extrinsic Rewards	6.00	6.50	0.50
S3 Equity	5.85	6.69	0.84
average	*6.13*	*6.26*	*0.13*

DST: Digital Storytelling

ARCS	F2F-2019(n=20)	Remote-2022(n=16)	Gap	
Attention				
A1 Perceptual Arousal	7.25	7.31	0.06	
A2 Inquiry Arousal	6.30	7.00	0.70	
A3 Variability	6.85	7.06	0.21	
Relevance				
R1 Goal Orientation	6.75	1→ 7.63	0.88	←1
R2 Motive Matching	6.80	2→ 7.56	0.76	←3
R3 Familiarity	6.95	6.94	-0.01	
Confidence				
C1 Learning Requirements	6.35	7.19	0.84	←2
C2 Success Opportunities	6.45	6.69	0.24	
C3 Personal Control	7.05	6.94	-0.11	
Satisfaction				
S1 Intrinsic Reinforcement	6.40	6.44	0.04	
S2 Extrinsic Rewards	7.45	3→ 7.38	-0.08	
S3 Equity	7.25	3→ 7.38	0.13	
average	*6.77*	*7.11*	*0.33*	

Figure 3: ST and DST in F2F and remote courses

Pros and Cons of the Remote Learning Course

There were two open-ended questions presented in the remote course of 2022, “Q1: What could be improved in the remote course?” and “Q2: What points were preferable in the course?” As a result, there was one negative comment to Q1, and that was the font of the LMS was too small. In e-learning, students often need to look at their computer screens for long periods of time, so in order to reduce the burden on students as much as possible, it is necessary to aim to create screens that are easy to read, including using appropriate font sizes.

On the other hand, there were 10 positive comments from students to Q2 as follows:

[Easy to understand explanation]

"It was very helpful to have a detailed explanation of how to make a digital story." (Student A)

"It was very helpful to have a clear explanation of what I needed to do." (Student B)

"The class was easy to understand, and the explanation of the assignment was very detailed and easily understood. " (Student C)

"The instructions were very thorough and easy to understand, and I was able to tackle the assignments smoothly. Thank you very much." (Student D)

[Learning at each student's own pace]

"By using both Zoom and recorded videos, it was good that I learned what I could do by myself at my own pace, and also, we had fun group sessions by participating in the class (on Zoom)" (Student E)

"I was able to learn English at my own pace." (Student F)

[Support]

"It was good that the support was substantial." (Student G)

"I'm glad the teacher was kind." (Student H)

[Other comments]

"I felt that my vocabulary improved a little through e-learning materials." (Student I)

"I was able to enjoy learning English, which I am not good at." (Student J)

Similar comments were categorized. Out of the 10 responses, 4 comments were related to the ease of understanding the explanation. Additionally, two responses were about the benefit of allowing students to learn at their own pace. Additionally, two responses were related to providing support.

Changes in Student Comments About DST Courses Before and After the Pandemic

Since 2012, the DST courses have been run every year, and at the end of every term, a questionnaire survey has been conducted. The previous study showed that most students expressed positive views on DST assignments and considered movies and ICT both interesting and useful for English learning (Kasami, 2018). There were also some students who were less motivated, and the findings from these demotivated students' comments revealed that it would be effective to provide (1) specific instruction with proper guidance of DST, (2) sufficient time to accomplish the assignment, and (3) technical support (Kasami, 2018).

The pandemic has forced teachers to offer remote learning, and student comments suggest that this change has improved three problems that needed improvement in the courses before the pandemic. As a result, the remote courses enabled the provision of proper guidance, sufficient time to accomplish the assignments at a pace of the student's own choosing, and individual support. Students in the remote course in 2022 had positive comments about the recorded video material, flexibility of learning anytime, anywhere at their own speed, and support given to the students with the use of Zoom throughout the course.

Although, when the courses were conducted remotely for the first time in 2020, there were problems that needed improvement, such as insufficient support and interactive learning opportunities (Kasami 2021), the changes caused by the pandemic have presented us with a unique opportunity to try new measures and innovations. This experience may be exploited in a positive manner as a means of creating more effective education in the future.

3.2. Discussion

The recorded videos and materials allow students to choose when they learn more flexibly. When they experienced difficulties with creating their own digital stories, they could ask for help through optional Zoom meetings, by watching video manuals or reading FAQs. These seem to be related to the comparatively high average points in R1 (Goal Orientation) and R2 (Motive Matching) in the ARCS model.

People live in an era where anyone can watch and post videos on demand. It is inferred that there were many students who were good at editing videos and wanted to know how to edit them easily. Therefore, in today's internet society, it is easy for students to know how objectives are useful in their everyday lives (R1: Goal Orientation), and students' learning goals tend to match the students' motives (R2: Motive Matching).

In terms of the aspect of confidence, learning goals and criteria are clearly shown and shared on the LMS which became more frequently accessed in the remote courses. Therefore, students could manage expectations easily (C1: Learning Requirements). In addition, they received support so they could conduct their DST more confidently. It is inferred that these changes could result in positive comments about remote learning. These results seem different from Meşe & Sevilen's (2021) study which reported that EFL in remote learning had a negative impact on student motivation. At the same time, the findings in this study are in line with Yu & Zadorozhnyy's (2022) study which reports that creating videos improves students' learning in EFL.

4. Conclusions

Although the results of this study cannot be generalized due to the small sample sizes, it can be said that DST in remote classes was received positively in terms of learning motivation in general by most students. The pandemic experience has enhanced the way students are motivated to learn in this study.

In the post-pandemic era, students can easily help each other with learning. They can enjoy conversations and interactive learning in F2F courses. In addition to this, the changes in educational methods brought about by the pandemic could become a good opportunity for better education in the future. Future F2F courses would be better than traditional F2F courses by integrating what has been learned during the pandemic.

Experiences of new learning styles during the pandemic have taught that some work might be done better remotely. In post-pandemic education, while F2F classes would be the standard, future education could be more practical and effective for students if we can flexibly choose the optimal learning style depending on the learning content, learning effects, and learner needs. Future F2F courses may be improved by incorporating the individual support and video materials that were popular in remote courses during the pandemic.

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Eighty Years of Open Educational Resources in CALL

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Abstract
For the past four decades (eighty years between the two of them), Deborah Healey and Phil Hubbard have devoted substantial portions of their professional careers to developing, maintaining, and promoting free and open resources for computer-assisted language learning (CALL). In this paper, they take a chronological look at that journey and the resources that they have made available. In the 1980s, microcomputers like the Sinclair, Apple IIe, and IBM PC made CALL more widely possible. Both authors, like others, were inspired then to begin creating and sharing free educational technology resources. Over time, even more teachers were involved in using CALL and providing information and resources to each other. The authors describe some of the open resources that they created and shared, along with the stories behind them. They conclude by discussing some of the challenges of creating and disseminating freely usable material and describing their plans for future open resources, encouraging their colleagues to do the same.

Keywords: Open Educational Resources, Free, Sharing, History

Introduction

In the 1980s, many practitioners of computer-assisted language learning (CALL) shared their work freely with colleagues, often with few or no restrictions. They were contributing open educational resources (OERs) before OER became a widely-used term. Creative Commons defines OERs as:

> Teaching, learning, and research materials that reside in the public domain or have been released under an open license that permits their free use and re-purposing by others. (Creative Commons, n.d.a, para. 3)

In this article, authors Deborah Healey and Phil Hubbard define an OER broadly: it is any educational resource that is shared freely with everyone. All of the resources described here are (or were) freely available. Many need to include attribution to the original author; some resources can be modified while others cannot; a few are completely free and open. For the past four decades (eighty years between them), the authors have been developing and maintaining their OERs for CALL.

The 1980s

Deborah Healey became involved with CALL in 1984. She taught programming in BASIC, a common computer language, to her international students. She used cheap resources and very cheap computers with her students before moving to the Apple IIe and an interest in free software. She was concerned from the beginning with the digital divide and so wanted to be able to provide free resources to as many teachers as possible. Deborah and others in the new CALL Interest Section (CALL-IS) from TESOL International Association began distributing Apple IIe, Atari, Amiga, and MS-DOS software at the TESOL conference and by mail. These programs were freeware, with no cost involved, or shareware, where the user was asked to send money directly to the programmer. The CALL Interest Section Software List, started by Claire Bradin Siskin and maintained by Norm Johnson and Deborah, had some commercial programs but with special attention to free or inexpensive options. Each title included publisher/author information, skill area, learner level, and a description. Where available, the original lists also included contact information for a teacher who used the program and was willing to talk about it. Macintosh and Windows titles were added later. A few notable free titles from the CALL-IS Library included the adventure game Mystery House and the authorable Open Cloze for Apple IIe; clip art collections and HyperCard programs such as HyperQuest and PhrazeCraze Plus for Macintosh; and text adventure games such as Crime Lab and Master the Market and grammar programs for MS-DOS.

In the early 1980s, Phil Hubbard started developing Apple II-based exercises for his ESL students and sharing them freely with interested colleagues at conferences. Like others using Apple's BASIC language, his ready-to-use versions included the source code so that users could adapt them. All of his software in this period was released as public domain. To encourage others to take the same path, he founded the Clearinghouse for ESL Public Domain Software at Ohio University in 1985, providing a home and distribution process for free software. Soon after, he began donating his programs to the TESOL CALL Interest Section library, keeping them in the public domain. Some titles for Apple II's included the aforementioned Open Cloze authoring system; Skimmer/Scanner, a reading strategy game; and Keyword Vocabulary, which focused on teaching high frequency words to improve reading. Switching to Macintoshes in the early 1990s, he produced two HyperCard programs

for listening: Fogg City Adventure, where students had to locate places on a city map by following directions, and Island Paradise, a report on the Bahamas supporting note taking and listening for details.

Mid-1990s – 2009

With the Web in the mid-1990s, a whole new arena for resource sharing emerged for both authors. Deborah and Norm Johnson continued and expanded work on the list of software for English language teaching - now for Macintosh and Windows platforms - and moved the list online. The list was offered by platform and skill; during its heyday, the list also had an option to add additional titles. The longer list online had far more commercial programs, but the list was free. The archival version is at www.eltexpert.com/softlist.

Deborah also began her Tech Tips of the Month (https://deborahhealey.com/techtips/) in 1995 to help teachers, including those in low-resource areas, use the Internet effectively. Early topics included mailing lists (LISTSERVs), searching, finding authoritative sources, paraphrasing, and using chat effectively. Later topics in the early 2000s revisited searching, using Word and PowerPoint, and finding authoritative sources. Deborah also shared syllabi for several of her courses, including technology training for teachers, pronunciation, advanced reading & writing, and grammar through the 1990s and early 2000s.

In the 1990s, Phil started sharing websites containing detailed course notes for his CALL classes with links to other free resources. These went through three iterations: 1998-2003 can be found through the Internet Archive at https://tinyurl.com/CALLMini-course; 2003-2011 is available at https://web.stanford.edu/~efs/callcourse/; and 2012-2020 can be found at https://web.stanford.edu/~efs/callcourse2. In 2002, he created a website for a project based on a survey of unanswered research questions in CALL containing input from 68 CALL experts of the time regarding a question they would like to see answered. The site at https://web.stanford.edu/~efs/callsurvey/ still provides useful ideas for those interested in CALL research, e.g., questions about user choice, interaction of learner characteristics and meaning construction in CALL, and adaptive learner training.

2010 – 2019

Deborah's Tech Tips ended in 2012, but she continued to share course syllabi and material where possible. Most of her University of Oregon courses were online teacher training for teachers around the world, often created collaboratively. One course currently visible is for the Oregon-Iraq Guided Online English Study, a tandem learning project for teachers and learners in Iraq (https://blogs.uoregon.edu/aeiprojects/oelc/iraq/). She was a co-author of *Women Teaching Women English* (https://blogs.uoregon.edu/aeiprojects/wtwe), a freely-available textbook and teacher's manual. *WTWE* was designed for Lebanese women, who were ill-served by the currently-available English textbooks that seemed aimed at high school and university-level students. She was the linguistics lead on the US Department of State team that created the *Trace Effects* video game for language learners and helped train teachers to use the game and the additional teaching and learning material. The game, teacher's manual, graphic novel, and additional material can be downloaded at www.deborahhealey.com/trace. The game has not been updated to work on mobile devices or most current operating systems, but the graphic novel is fully usable in the classroom. Deborah also offers a number of freely usable (with attribution) teacher training resources at

www.deborahhealey.com. Material includes resources for gamification, assessment, and a variety of skill areas.

Many of Phil's freely accessible resources appear on his open resource page at https://web.stanford.edu/~efs/PhilHubbard-Resources. For the 2010s these included a number of published papers, such as “Making a Case for Learner Training in Technology Enhanced Language Learning Environments” (2013) at https://web.stanford.edu/~efs/LT-CALICO-CC.pdf and “Some Emerging Principles for Mobile-assisted Language Learning (2013, co-authored with Glenn Stockwell) at https://www.tirfonline.org/resource/2013-october-mall-some-emerging-principles-for-mobile-assisted-language-learning/. There is also a link to download a 2017 ebook he co-edited with Sophie Ioannou-Georgiou: *Teaching English Reflectively with Technology*, https://members.iatefl.org/downloads/sigs/LTSIG_ebook.pdf. Slides from selected conference presentations in the 2010s are similarly available on his resource page. Two of these are “Theory in CALL Research: The Role of Context” at https://web.stanford.edu/~efs/CALL2017 and “Five Keys from the Past to the Future of CALL” at at https://web.stanford.edu/~efs/GC2018p. Finally, he has made freely available the extensive course notes from his Stanford classes, including “Learning English on Your Own” at https://web.stanford.edu/~efs/689e/, "Advanced Listening & Vocabulary Development" at https://web.stanford.edu/~efs/693b and "Writing & Presenting Research" at https://web.stanford.edu/~efs/698c/.

The 2020s

Deborah's website at https://www.deborahhealey.com continues to provide resources for teachers, most Creative Commons licensed and free (with attribution) to teachers. As part of an Africa ELTA workshop on OERs, she created a WebQuest-style project-based learning OER about mapping and describing locations with supplemental teaching material as a sample. Along with that OER are a template and detailed instructions about each project-based learning element to help those interested in project-based learning create their own open educational resource to share. The sample OER, template, and instructions are at http://tinyurl.com/pbloer.

Phil has kept adding to the conference presentation slides, articles, and courses he has made freely available. His CALL course notes were formally published as a free downloadable ebook, *An Invitation to CALL: Foundations of Computer Assisted Language Learning*, available at https://www.apacall.org/research/books/6/. Other additions include slides from recent conference talks such as "Exploring Openness in CALL" at https://web.stanford.edu/~efs/CALICO23, which includes a number of OERs from other sources, and "Listening and Language Learning: Moving Beyond the Classroom" at https://web.stanford.edu/~efs/ICLL21. His most recent open-access journal paper, "Emerging Technologies and Language Learning: Mining the Past to Transform the Future" is at https://www.degruyter.com/document/doi/10.1515/jccall-2023-0003/pdf.

Deborah and Phil were on the TESOL Technology Standards team (Healey et al., 2011; TESOL, 2008). They are pleased to announce that as of 2023, the TESOL Technology Standards Framework has been released as CC BY for non-commercial use and is hosted by the TESOL CALL Interest Section at https://www.call-is.org/WP/2023/06/12/tesol-technology-standards-framework/. They have recently returned to this topic by serving as half of the team developing technology standards for the Canadian settlement language sector

(adult immigrant education), which is similarly being released as CC BY for non-commercial use. A draft version was presented at WorldCALL: https://tinyurl.com/inststds.

The slides from their joint talk at WorldCALL that formed the basis of this article are at https://tinyurl.com/worldcalloer.

Possibilities and Challenges

This paper has focused on the authors' work, but we are just two of many who have devoted their time and effort to making CALL resources openly available. In this last section, we briefly discuss the possibilities and challenges for others.

Possibilities

OERs are increasingly available. In addition to the resources in Phil's list at https://web.stanford.edu/~efs/CALICO23, teachers can search through an extensive library at OER Commons, https://oercommons.org/. Georgetown University offers links to a number of US government-funded free resources and others at https://library.georgetown.edu/scholarly-communication/open-access-esl-efl. A search for open educational resources for language teaching brings up additional possibilities.

Other reasons for an increase in OERs are that teachers are better able to produce material to share, and many institutions consider creating and sharing an OER a service opportunity. OER Commons provides Open Author, a template for creating OERs to share on OER Commons. Google offers a number of free tools, including Google Sites and Google Drive where resources can be shared.

Challenges

While OERs may be easier to create, distribution remains an issue. Unless teachers are aware of different repositories, they may not be able to share the OER they create or to find an OER that fits their needs. Both Phil and Deborah have had issues with "page not found" errors when they were looking for previously active links. Fortunately, many pages are available in archived form from Internet Archive at https://archive.org.

A challenge of institutional vs. personal ownership arises for those whose institutions claim copyright on in-house material. It may not be possible to share openly. A similar issue is when the author does not take care to use only freely-available images and other resources within their OER. The copyright holder of the resource can challenge free distribution and ask for compensation.

Many authors are willing to share what they create, but there may be a substantial cost for development and distribution or storage of extensive OERs. Open access journals are free to users, but they charge authors in their publications, and the cost can be substantial. Upgrades may also come at a cost, or not at all. For example, the *Trace Effects* video game did not have a needed and potentially costly upgrade to its underlying system and so no longer works online or on most current computers.

Another disincentive to create and distribute material as an OER is that authors have more options to sell the material they create. A commonly-used website is TeachersPayTeachers

(https://www.teacherspayteachers.com/). Material can be free, but most resources have a fee. For authors who do not get funding or recognition for their OERs from their workplace, self-funding becomes quite attractive.

Conclusions

Almost all teachers create material at one time or another; many write articles and present at conferences. Creative Commons is an approach that lets authors retain copyright while sharing their material to the extent that they choose. The stated mission of Creative Commons is to "build and sustain a thriving commons of shared knowledge and culture" (Creative Commons, n.d.b, para. 1). Authors can use a Creative Commons license to specify whether they want attribution, and whether and how they permit copying, distribution, and modification of their work. Authors can share while maintaining copyright and control. Both authors continue to share what they create using Creative Commons licensing whenever possible. Deborah is hoping to create OERs related to gamification and alternative assessment, as well as to share future publications and presentations. She and Phil are still working on the Canadian settlement sector technology standards for language instructors, learners, and programs. Phil plans to continue to share writing and conference presentations, making that work open access as much as possible and expanding and updating his resource list. They hope that others will contribute to the common good as well.

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Reading and Listening Outcomes of Learners in the Duolingo English Course for Japanese Speakers

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Abstract

This study evaluated the reading and listening proficiency levels of 81 English language learners who completed the Basic content (CEFR A2) of the Duolingo English course for Japanese speakers. Participants self-reported having little to no prior proficiency in English and using Duolingo as their only learning tool. Their language skills were assessed with the reading and listening sections of the STAMP 4S English Test by Avant Assessment. The results show that, on average, learners at the end of A2 scored Intermediate High in both reading and listening, which is one sublevel above the expected learning outcomes (Intermediate Mid) of the course. These findings provide evidence of the effectiveness of Duolingo's English course for Japanese speakers in developing learners' reading and listening comprehension skills.

Keywords: Duolingo, Efficacy, English, Reading Proficiency, Listening Proficiency, Japanese Speakers

Introduction

In Japan, English is a required school subject for students starting from third grade in elementary school. Surprisingly, after taking English classes for over 8 years at school and, for some, even more years at a university, the English proficiency of learners in Japan has been ranked at the lower end among countries based on international proficiency test results such as TOEIC, TOEFL, and IELTS (Nuttall, 2019). For example, on average performance of TOEIC test takers worldwide (Educational Testing Service, 2022a, 2022b), Japan ranked #29 among 41 countries in the reading and listening test, #22 among 26 countries in the speaking test, and #21 among 24 countries in the writing test. As English continues to be the most popular international language, there is a need for learners in Japan to gain a higher proficiency in English. This study investigated the impact of learning English via Duolingo, an app-based language learning tool, on English reading and listening proficiency of learners in Japan.

This paper reports results of a study measuring reading and listening abilities of Duolingo learners in its English course for Japanese speakers when they finish the first four sections in the course. Content in the first four sections of the course is designed to teach to the A2 level based on the *Common European Framework of Reference* (CEFR).

The CEFR is an international language proficiency standard that defines learning goals for Basic (A1-A2), Independent (B1-B2), and Proficient (C1-C2) users (see Figure 1; Council of Europe, 2001).

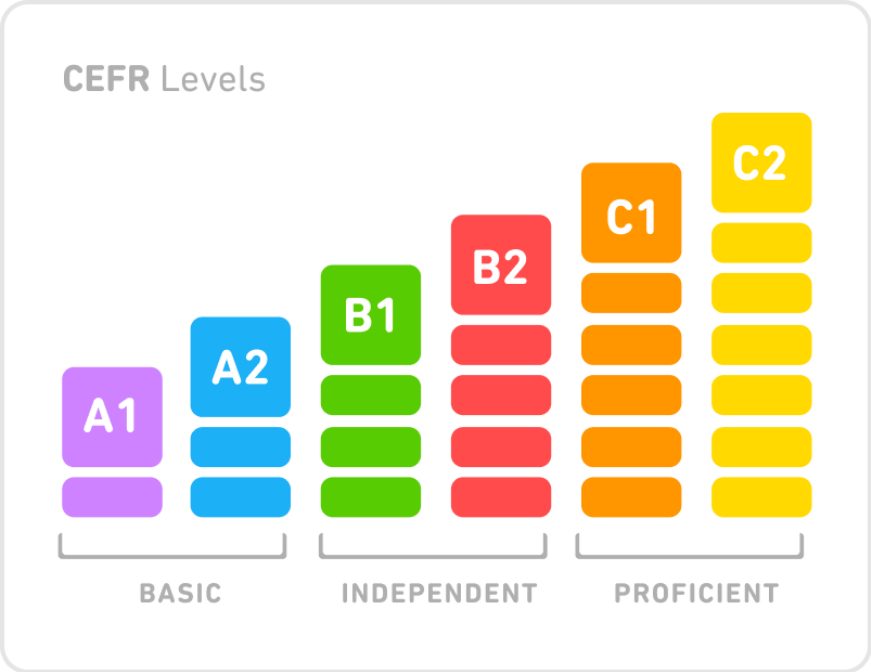

Figure 1: A Sketch of the CEFR Levels

Duolingo course structure is organized based on sections and units. There are four sections in the Basic content: a brief intro section, two sections of A1 content, and a longer section of A2 content. Each section is composed of units, and an average unit contains around 25 lessons, each lasting about 2-3 minutes. Table 1 shows the number of units in each section of the CEFR Basic content. To reach the end of A2, learners need to complete a total of 80 units in

the course. Duolingo's English course for Japanese speakers currently has content beyond A2, but, in this study, learners were tested at the end of A2.

CEFR Basic Level	Duolingo Course Section	Number of Units	Cumulative Units
Pre-A1 (Intro)	Section 1	5	5
A1	Section 2	17	22
	Section 3	18	40
A2	Section 4	40	80

Table 1: CEFR Basic-level Content in the Duolingo English Course for Japanese Speakers

The content in each unit includes lessons that either introduce new material or review previously covered content, as well as short stories. Lessons include several activity types targeting vocabulary, grammar, reading, listening, writing, and speaking. To facilitate listening and speaking development, Duolingo provides learners with many opportunities to listen to the target language and speak it out loud. All English course content is accompanied by audio and learners are allowed to play the audio at varied speeds as often as they need. In addition, speech recognition technology is used for all speaking exercises in order to provide learners with feedback. Review lessons provide personalized spaced repetition of the material to ensure each learner practices their weaker areas. Finally, short stories provide discourse-level reading and listening comprehension practice, reinforcing and enriching learners' knowledge by situating the lesson content in everyday contexts.

Research Questions

The current study evaluated the reading and listening proficiency outcomes of learners in Duolingo's English course for Japanese speakers when the participants completed the first four sections of the course (Basic content through A2). The research question addressed in this study is:

- What levels of reading and listening proficiency do participants achieve when they reach the end of A2 in Duolingo's English course for Japanese speakers?

Methods

Participants

The participants of the study were 81 learners in the Duolingo English course for Japanese speakers.

To qualify for study participation, learners had to meet the following criteria:

1. Learners' self-reported English proficiency was either "I don't know any English" or "I know basic words and phrases" when they first started the English course on Duolingo. The prior proficiency scale had four levels. Only learners whose recorded prior proficiency was at Level 1 or Level 2 were included in the study. The two higher

levels were “I can understand simple conversations” and “I am intermediate or advanced.” Duolingo collects self-reported prior proficiency information from all learners at the beginning of the course for the purposes of learner analytics. Except for two participants who reported knowing no English, all the participants in this study reported knowing basic words and phrases.

2. Learners reached the end of the A2 section (Section 4) in the Duolingo English course for Japanese speakers. This meant that their latest completed session in that course had to be within Units 78-80, where Unit 80 is the end of A2. Because most participants started the course with some knowledge of English, they began to learn at different places in the course after taking the placement test. The placement data showed that 37% of the participants started learning in Section 1, 30% in Section 2, and 33% in Section 3 (see Table 1 about course sections).
3. Learners were 18 years of age or older (as self-reported in the background survey included in the initial invitation email).
4. Learners did not take English classes or use other apps or programs to study English while they were learning English on Duolingo (as self-reported in the background survey).

Instruments

The Background Questionnaire

The background questionnaire included questions related to participants' language background, reasons for learning the language, highest level of education, age group, and whether they took classes or used other programs/apps during the time they used Duolingo. The answers to the latter questions confirmed eligibility for participation (see Participants above). The background questionnaire was conducted in Japanese. The responses to the survey questions are summarized in Appendix A in English.

The STAMP 4S English Test: Reading and Listening Sections

The test used in this study was a commercial standardized test called STAMP 4S provided by *Avant Assessment*[1]. The acronym STAMP stands for **Sta**ndards-Based **M**easurement of **P**roficiency, and 4S refers to the four sections/skills of reading, writing, listening, and speaking. The STAMP 4S English test is an online, ACTFL-aligned, computer-adaptive test of English language proficiency accredited by the American Councils on Education (ACE).

The Reading and Listening sections of the STAMP 4S English Test were used in this study. Each section consists of 30 multiple-choice questions, which assess test-takers’ ability to comprehend a variety of written or spoken texts used for general communicative purposes in English. Each reading and listening question has an associated benchmark level. Test-takers experience questions at various levels because the reading and listening sections are computer-adaptive. Appendix B shows topics and general student characteristics associated with the benchmark levels (Avant Assessment, 2023a). The two sections of the test take 60-75 minutes to complete. The test is scored automatically in two ways: in ordinal ratings on a scale of 1-9 (STAMP levels) and in interval scaled scores. According to Avant Assessment

[1] https://avantassessment.com/stamp

(Santos, 2022), the internal consistency reliability coefficients (Cronbach's alpha) of the Reading and Listening sections of the STAMP 4S English test are 0.89 and 0.90, respectively.

Both the STAMP level ratings and scaled scores are aligned with three broad levels on the proficiency scale of the American Council on the Teaching of Foreign Languages (ACTFL): Novice, Intermediate, and Advanced, with each being further divided into Low, Mid, and High (ACTFL, 2012). As shown in Figure 2, the STAMP scale of 1-9 is aligned to nine ACTFL sublevels: Novice (Low, Mid, High), Intermediate (Low, Mid, High) and Advanced (Low, Mid, High).

STAMP Level 1	STAMP Level 2	STAMP Level 3	STAMP Level 4	STAMP Level 5	STAMP Level 6	STAMP Level 7	STAMP Level 8	STAMP Level 9
Novice			Intermediate			Advanced		
Low	Mid	High	Low	Mid	High	Low	Mid	High

Note: From Santos (2022, p. 2). Reprinted with permission.

Figure 2: The Alignment of the STAMP Scale with ACTFL Proficiency Scale

Figure 3 shows a mapping of the scaled scores in relation to the ACTFL proficiency scale.

Compared to ordinal proficiency ratings, the scaled scores provide a more fine-tuned view of a test-taker's proficiency, thus more precise. For example, if a test-taker receives STAMP Level 6 (Intermediate High) in reading, the corresponding scaled score is within the range of 541-579. For this reason, the main findings of this study are reported based on scaled scores.

Benchmark	Group	Reading	Listening
Advanced	High	617 – 660	622 – 671
	Mid	597 – 616	599 – 621
	Low	580 – 596	582 – 598
Intermediate	High	541 – 579	534 – 581
	Mid	523 – 540	521 – 533
	Low	502 – 522	501 – 520
Novice	High	461 – 501	466 – 500
	Mid	449 – 460	455 – 465
	Low	331 – 448	343 – 454

Note: From Avant Assessment (2023b). Reprinted with permission.

Figure 3: STAMP English Reading and Listening Scaled Scores in Relation to ACTFL Proficiency Scale

Procedures

An email soliciting participation was sent to all Duolingo learners in the course who pre-qualified for study participation (criteria 1-3 listed in the Participants section above). Learners aged 18 and above interested in participating completed a background survey that allowed us to verify eligibility and collect additional demographic information. Among the survey responders, those who reported that they had taken classes or used other apps/programs to learn English during the time they used Duolingo were disqualified from participation.

Qualified participants were notified and invited to take the Reading and Listening sections of the STAMP 4S English Test paid for by Duolingo. Data were collected between November, 2022 and June, 2023 during 16 test windows on a rolling basis, each lasting two weeks (from initial call for participation to taking the test). Remote human proctors from Avant Assessment were present for each scheduled testing session. Each participant received $75 and their score report after taking the test. Table 2 shows the data collection funnel.

Email sent	Survey responded	Eligible	Test started	Test completed
2734	528	254	82	81

Table 2: Data Collection Funnel

Results

As explained in the Instruments section, participants' reading and listening performances were evaluated in both STAMP levels and scaled scores. The STAMP levels are in an ordinal scale of 1-9, which corresponds to the ACTFL proficiency scale of Novice Low (1) to Advanced High (9). Each STAMP level corresponds to a range of scaled scores, which further differentiate same-level learners and provide a more precise understanding of their proficiency. Table 3 shows the number of participants who scored at each STAMP (and ACTFL) level across the scale in reading and listening. Figure 4 provides a visual presentation of score distributions in reading and listening.

STAMP	ACTFL		Reading	Listening
1		Low	0	0
2	Novice	Mid	0	0
3		High	6	6
4		Low	6	18
5	Intermediate	Mid	21	11
6		High	36	41
7		Low	4	3
8	Advanced	Mid	5	2
9		High	3	0

Table 3: Distribution of Scores at Each STAMP and ACTFL Level in Reading and Listening

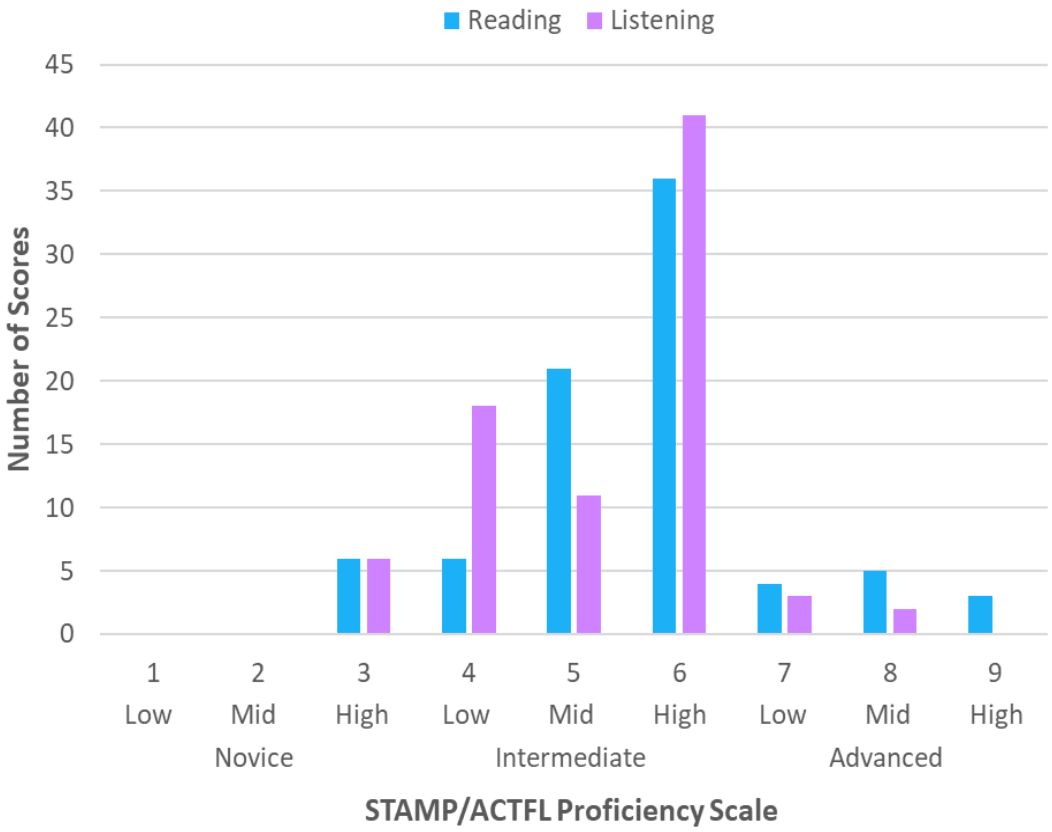

Figure 4: Reading and Listening Score Distributions by STAMP/ACTFL Level at the End of A2

The score distributions demonstrate that the majority of the learners scored in the intermediate range, with Intermediate High (Level 6) being the mode of the distribution (i.e., the most frequent score).

Table 4 shows the average scaled scores of the participants and their alignment with the ACTFL scale. At the completion of A2 in the course, the study participants averaged 550 in reading and 539 in listening, which correspond to Intermediate High in both skills (see Figure 3).

	Mean scaled score (SD)	ACTFL scale
Reading	550 (33.78)	Intermediate High
Listening	539 (28.10)	Intermediate High

Table 4: Reading and Listening Proficiency of Japanese-Speaking Participants in STAMP Scaled Scores

Discussion

This study evaluated learners at the completion of the first four sections (Basic content through A2) of Duolingo's English course for Japanese speakers. On average, the participants scored Intermediate High in both reading and listening. The findings were consistent with those of Jiang and Pajak (2022) and Jiang et al. (2023), which reported the reading and listening proficiency of learners in Duolingo's English courses for Spanish speakers and for Portuguese speakers. The consolidated evidence boosts our confidence that Duolingo's Basic content (through A2) in its English courses is effective in developing learners' reading and listening skills.

What does a Proficiency Level of **Intermediate High** Mean?

There are two major frameworks in the field of language learning and assessment: the CEFR and the ACTFL guidelines. As well-established educational standards, they both provide the basis for curriculum development, test development, and test score interpretation. This study involved both standards. The Duolingo English courses were aligned with the CEFR and the participants were assessed when they completed the A2 content, while the interpretation of their test scores was based on the ACTFL proficiency guidelines.

The questions are how CEFR A2 relates to ACTFL Intermediate High and whether the participants met the expected course outcomes in this study. Although the two frameworks have co-existed for more than 20 years, few empirical studies investigated the correspondence between them. Currently, the interpretation of the STAMP 4S English Test scores is only aligned to the ACTFL proficiency guidelines. Avant Assessment does not provide a concordance between their STAMP scale and the CEFR. However, Avant Assessment (Santos, 5/22/2023, personal communication) expects that "a STAMP level 6 (Intermediate High) will map to a CEFR B1, given our current work on developing STAMP 4S CEFR tests and previous research in this area." Based on the work of other standardized international tests, a score of CEFR B1 is comparable to a score of 550-785 in the TOEIC

Listening and Reading Test (total 990), 42-72 in the TOEFL iBT (total 120), and 4.5-5.0 in the IELTS (total 9.0).

ACTFL (n.d.) published an empirically-based alignment between the two frameworks and uses it to assign CEFR levels to their own assessments. For the ACTFL reading and listening proficiency tests, CEFR A2 corresponds to ACTFL Intermediate Mid, and CEFR B1 is aligned to ACTFL Intermediate High (B1.1) and Advanced Low (B1.2). Based on these correspondences, the reading and listening proficiency of the participants in the current study is one ACTFL sublevel above our expected course outcomes of Intermediate Mid. In other words, the participants of this study scored above A2 and at early B1 when they completed the A2 content on Duolingo's English course for Japanese speakers, which demonstrates the effectiveness of the course in developing learners' reading and listening skills.

At the level of Intermediate High in reading and listening proficiency, what are learners able to comprehend? Avant Assessment provides some benchmark characteristics of learners based on three broad proficiency levels (see Appendix B). At the intermediate level of reading or listening, learners are assessed on topics related to health, transportation, culture, and contemporary issues such as current events, economics, literature, science, social science, and history. In reading, they are able to use language knowledge to understand the main ideas and explicit details in everyday language. In listening, learners are able to follow short conversations and announcements on common topics and answer questions about the main ideas and explicitly stated details.

Limitations and Future Directions

This study assessed learners when they reached the end of A2 naturally and independently, with no experimental manipulation, so this design presents a high level of ecological validity. However, self-reported data was used to determine participant eligibility (e.g., prior proficiency, whether or not participants were taking classes and using other tools during the use of Duolingo). Future research would benefit from more controlled designs such as a pre- and post-test design or a comparison-group design. These designs would allow more control of learning time as well as participant factors that were self-reported in the present study.

Furthermore, the skills of reading and listening assessed in the study are both receptive. Learners were not assessed in productive skills such as speaking (as in Jiang et al., 2021 for Duolingo learners of Spanish and French) and writing, or overall proficiency. Future studies should evaluate Duolingo's effectiveness in developing English learners' productive skills or overall proficiency. Doing so will lead to a better understanding of whether and to what extent Duolingo English learners' success in receptive skills can also be observed in productive skills or overall proficiency.

Conclusion

In sum, this study evaluated the reading and listening proficiency of Japanese-speaking learners of English who self-reported having little to no prior knowledge and using Duolingo as their only learning tool. The findings demonstrated that participants who completed the first four sections (CEFR A2) of the Duolingo English course for Japanese speakers scored, on average, Intermediate High in both reading and listening, which are above our course expectations. These proficiency outcomes indicate that the Duolingo English course for Japanese speakers is effective in developing learners' reading and listening skills, similarly to

what was found for the Duolingo English courses for Spanish speakers (Jiang & Pajak, 2022) and for Portuguese speakers (Jiang et al., 2023).

Acknowledgements

We would like to thank Lucy Skidmore for her help in collecting and analyzing the data, as well as providing feedback on the report.

Appendices

Appendix A: Characteristics of the Study Participants

Characteristics	% of Participants (N=81)
Age	
18-34 years	23.46%
35-54 years	64.20%
55-74 years	12.35%
Home language before age 6	
Only Japanese	100%
Highest level of education	
Bachelor's degree	53.09%
Master's degree	13.58%
High School	16.05%
Associate degree	6.17%
Trade School	6.17%
Other	4.94%
Primary reason for learning English	
For social purposes	39.51%
For job-related purposes	39.51%
For fun/leisure	34.57%
For school	28.40%
For memory / brain acuteness	17.28%
For travel	19.75%

Appendix B: Topics and Test-taker Characteristics Associated with the Benchmark Levels

Benchmark Level	Topics	Characteristics
NOVICE	• Self • Calendar/Time • Colors/Shapes • Pets/Animals • School/Classroom • Weather/Seasons • Clothing • Food/Beverage • Family/Friends • Home • Places/Geography • Community • Daily Routines • Shopping/Stores • Leisure/Activities	Students who are reading or listening at Novice proficiency are characterized by: • Reliance of learned phrases and basic vocabulary • Ability to recognize the purpose of basic texts • Can understand a core of simple, formulaic utterances

INTERMEDIATE	• Health
	• Holidays/Celebrations
	• Occupations/Professions
	• Transportation Travel/Vacations
	• Future plans
	• Culture
	• Contemporary Issues
	  • Current events
	  • Economics
	  • Literature
	  • Science
	  • Social Science
	  • History
	• *Plus more in-depth aspects of Novice topics*
		Students who are reading or listening at Intermediate proficiency are characterized by:
		• In reading, ability to understand the main ideas and explicit detail in everyday language
		• Ability to use language knowledge to understand information in everyday materials
		• Can follow short conversations and announcements on common topics and answer questions about the main idea and explicitly stated details

ADVANCED	• Arts • Politics • Religion • Math • *Plus more in-depth aspects of Novice and Intermediate topics*	Students who are reading or listening at Advanced proficiency are characterized by: • Can understand and use language for straightforward informational purposes • Can understand the content of most factual, non-specialized materials intended for a general audience • Can understand the content of most spoken factual, non-specialized language

Note: From Avant Assessment (2023a). Reprinted with permission.

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Exploring the Potential of In Real Life (IRL) Streaming for Language Learning: A Participant Observation Study of Japanese University Students

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Abstract
In Real Life (IRL) streaming is a rapidly growing practice of Internet broadcasting real-time video footage of daily routines, social events, personal interactions, and travel adventures. This participatory form of social media allows for a high degree of viewer interaction and collaboration through text-based chats with the streamer. Previous studies have examined the affordances of livestreaming in language learning, but there is a notable gap in the literature regarding IRL streaming and language learning. As IRL streaming takes place "in real life," there is ample opportunity for authentic language exposure and cultural immersion in every-day contexts, as well as affordances for interactive learning through the real-time chat function to communicate with both the streamer and other viewers. This qualitative study used participant observation to investigate what happens when Japanese university students use IRL streaming as a novel approach to English language learning. When learners immersed themselves in authentic, real-life language contexts they engaged in interactive learning to participate, ask questions, and receive immediate feedback, enhancing their engagement and motivation. They also were able to engage in the target language culture, gaining insights into cultural nuances, expressions, and customs. This paper also discusses the pedagogical implications for learner autonomy, cultural competence development, and integrating livestream-based activities in the language learning curriculum. Ethical considerations of IRL streaming are also covered, discussing issues of consent, privacy norms, and varying local regulations.

Keywords: In-Real-Life, Livestreaming, Language Learning, Participant Observation

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Introduction

In Real Life (IRL) streaming is a rapidly growing practice of Internet broadcasting real-time video footage of daily routines, social events, personal interactions, and travel adventures that has seen rapid growth since 2011 (Hilvert-Bruce et al., 2018). Unlike other pre-produced media found on on-demand streaming services such as YouTube, this participatory form of social media involves a streamer who broadcasts in real-time, typically responding to viewers who interact through a synchronous, built-in chat channel.

This format allows for a high degree of viewer interaction and collaboration with the streamer. Previous studies (e.g., Chen et al., 2019; Samat et al., 2019) have examined the affordances of live streaming in language learning, but there is a notable gap in the literature regarding IRL streaming and language learning. As IRL streaming takes place "in real life," there is ample opportunity for authentic language exposure and cultural immersion in every-day contexts, as well as affordances for interactive learning through the real-time chat function to communicate with both the streamer and other viewers.

In-Real-Life Livestreaming

On March 19, 2007, Justin Kan strapped a webcam to his baseball cap and hooked it up to a laptop-based rig-in-a-backpack, aiming to stream his entire life in its totality—minus bathroom and bathing breaks—a project he called "lifecasting" (Sirius, 2007). From this project, the video streaming platform justin.tv was born. Its successor platform, Twitch.TV, is currently the most popular live streaming service on the web. Staying true to its roots, Twitch launched a new streaming category called "In Real Life" in 2016, for users to share "their everyday lives, thoughts, and opinions with their communities," bringing about authentic engagement with viewers (Perry, 2020).

This format poses interesting opportunities for language learning by taking the stream from an isolated bedroom studio out into the "real world," increasing opportunities for authentic learner input in real-world contexts as the streamer negotiates meaning and interacting with the environment and others, increasing the likelihood for more cultural nuance, social interactions, and natural language use. This genre may also boost learner motivation and engagement, as the live and interactive nature of the IRL stream provides dynamic content where the viewer can drop in or leave at any time. While watching the streamer interact with the environment, viewers may ask questions, make suggestions, and receive immediate replies. The real-world context also will necessarily contain spontaneous and unpredictable situations, providing plenty of contextualized learning opportunities.

Research Question

What happens when Japanese university EFL students use IRL livestreaming as a language learning tool?

Literature Review

Streaming from the Internet as a tool for second language learning has garnered significant academic interest, particularly with its attendant technological developments in the past 15 years (Magasic, 2017; Yang & Xuan, 2023). Before the wide availability of broadband connections supported video streaming, less bandwidth-intensive media such as audio

streaming (Rizzi & Absalom, 2007), screen-recording (Ho, 2021), and video conferencing (Hampel & Baber, 2003; McAndrew et al., 1996) were investigated as other sources of authentic input delivered over the Internet.

Some reasons for the appeal of livestreaming for language learning has included social interaction, a sense of community, a chance to meet new people, a source of entertainment, a way to find information, and an extra avenue of support in life (Hilvert-Bruce et al., 2018). Livestreaming has been found to motivate learners in engaging in real-life language use through instant feedback and increased engagement (Chen et al., 2019), interactivity (Samat et al., 2019), an association with lower learner anxiety (LaPointe & Barrett, 2005; Lloyd, 2012), and access to authentic language and verbal and paralinguistic features (Magasic, 2017).

Although there have been multiple studies on video streaming in language learning, and some research on livestreaming for language learning in general, to the best of my knowledge, there has been no study undertaken on IRL livestreaming for language learning.

Methodology: Participant Observation

This study used participant observation, a "method for collecting information about people and matters related to them in some situation" (Jorgensen, 2020). As IRL streaming provides authentic, context-rich, and culturally significant data on language learning experiences, strategies, and outcomes, participant observation provides a way to understand how language learners negotiate with real-world use of language, adapt to diverse contexts, and develop both language proficiency and cultural competence. This methodology made it possible for me to immerse in real-life language contexts, observe language learners in action, and gain insights into the complexities of language acquisition in authentic settings.

Procedure

Four second-year sports majors at a university in Central Japan participated in this study. They were native Japanese speakers, male, and aged 19–20 years old. They were unfamiliar with livestreaming platforms in general. We met four times for about one hour each to discuss, view, and participate in IRL for the purposes of language learning. We selected the "IRL" genre on the Twitch.tv platform to find streamers. As the sessions were all held on weekday mornings in Japan, some care had to be taken to select English-speaking streams, as there were fewer streams from North America and Europe at this time, where it would have been late night or very early morning.

After a stream was found, the participants and researcher watched the stream while observing language use and cultural practices. Verbal and nonverbal communication, phrase structures, idiomatic expressions, and social norms were also noted. Data collection was taken through detailed field notes, capturing observations, interactions, and language-related insights such as phrases, gestures, and cultural customs.

After the observation session, the participants reflected on the experiences and observations made. This was done through conversation as well as through reflection worksheets. Through thematic analysis, the themes of language use, communicative strategies, discourse patterns, and cultural implications emerged.

Throughout this process, we continuously reflected on new insights and made adaptations to language learning strategies. For example, in one session, the prevalence of Internet acronyms such as “BRB” (be right back) and “GTG” (got to go) caught participants’ attention. “JK” (just kidding) was a surprise, as the abbreviation in Japanese stands for “joshi kōsei,” or “high school girl.” The emphasis of data collection often moved from what the streamer was saying to what was happening in the chat function.

In the first session, I introduced the concept of streaming in general. Although all participants remarked that they enjoyed watching videos online, they were unfamiliar with the livestreaming. Some vocabulary terms such as “stream,” “viewer,” and “content” were covered.

Finding an appropriate IRL stream for language learning involves identifying streams that offer opportunities for authentic language exposure and cultural immersion. The second session focused on the best ways to find streams. The first choice we made was selecting the streaming platform. Twitch seemed to be the easiest, as it had its own IRL genre to select. Care had to be taken that the stream was in English, as there were plenty of livestreaming in Spanish, German, and Japanese, for example.

The participants looked for streams where the “streamer can read comments,” and where there were “few viewers.” Large streams’ chats had many comments flying by, but on the other hand, in smaller streams often had the streamer responding to the chat. One participant remarked that “I chose it because [the streamer] responds to comments quickly.” Often, a streamer would respond to every remark that popped in the chat, making it kind of virtual conversation. The participants in this study were able to interact directly in English with the streamer this way, for example by indicating preferences for food, asking questions about the streamer’s plans, and giving advice on where to go.

In the third session, we examined the common difficulties associated with IRL livestreaming in language learning, analyzed the impact of drawbacks on language acquisition and cultural immersion, and developed strategies to address or overcome these challenges. The first challenges involved connectivity, lagging, and battery issues. Being out in public, IRL streams rely on cellular networks that are not always equipped for such high bandwidth activities, and streaming rapidly discharges mobile batteries.

I presented a few streams where issues were evident, such as lack of engagement, privacy concerns, and cultural barriers. Participants then found their own streams and noted difficulties and challenges, along with solutions or alternative approaches, and we discussed strategies to overcome challenges encountered during an IRL language learning session.

The purpose of the final session was to identify criteria for selecting high-quality IRL streams for language learning purposes, develop effective strategies for interaction and engagement with streamers during live sessions, and reflect on the impact of quality streams and interactive engagement on language acquisition.

We looked at what made a quality stream, focusing on content relevance, stream quality, and level of engagement. I provided some examples, then the participants selected streams based on the above criteria and rated them. The chat function was a crucial tool, as they were able to interact with the streamer directly, as well as with other viewers, enhancing the learning experience.

Discussion

IRL livestreaming provided English language learners with access to real-life, unscripted English language interactions, enabling them to experience. It allowed learners to access authentic, unscripted language interactions.

This format also allows learners to engage with English speakers and other learners through interacting via the chat function, immersing themselves in the target language culture, gaining insights into cultural nuances, expressions, and customs. Teachers can guide learners to explore streams that showcase cultural events, daily life, or interactions with native speakers. Encouraging interaction in the chat function enables learners to understand cultural nuances, expressions, and customs, fostering cultural sensitivity and awareness.

IRL livestreaming platforms facilitate real-time interactions between learners and content creators, enabling learners to actively participate, ask questions, and receive immediate feedback, enhancing their engagement and motivation. Teachers can design tasks such as asking questions, participating in discussions, or even collaborating on language-related challenges that involve learners actively engaging with streamers.

Engaging with livestreamed content helps learners develop their listening and comprehension skills as they encounter natural speech patterns, intonation, and vocabulary usage in authentic contexts. IRL livestreaming offers exposure to a wide range of vocabulary and idiomatic expressions used in real-life situations, allowing learners to expand their lexical repertoire. Educators can curate and recommend streams to expose learners to various accents, speech patterns, and vocabulary in natural contexts. Post-viewing activities such as comprehension quizzes, summaries, or discussions aid in assessing and reinforcing listening skills.

Challenges and Considerations

While In-Real-Life livestreaming holds promise for English language learning, certain challenges and considerations arose in this study. Livestreamed content may be challenging for learners with lower language proficiency levels, as the pace, vocabulary, and complexity of authentic language use can pose difficulties. One participant remarked that the “streamer is talking too fast,” and another lamented he “can’t rewind [the] stream,” and that he was “not used to hearing new words.”

The quality and reliability of IRL content may vary, and learners need to navigate through the vast array of available channels to find suitable and reliable sources of language input. As for the surfeit of choices, one participant remarked, “I cannot find what I want because there are so many streamers.” Another issue was with the time difference between many streamers’ online feeds and Japan Standard Time (UTC+0900). One participant responded that, “I can’t see it when I want to see it.” Some streams were listed as English, but another language was spoken. “I’m looking for a streamer, but I can’t find one in English.”

The issue of “nontent” in IRL livestreaming also merits mentioning. Nontent signifies streamed content lacking substantial or meaningful information, entertainment value, or purpose. This is a common complaint, as there can be long stretches where the streamer may not be actively engaging with viewers, periods of silence, or mundane activities. Especially in a compressed time frame such as a class period or data collection session, nontent can be disengaging or counterproductive.

Conclusions

The use of IRL livestreaming in English language learning carries several pedagogical implications, as discussed above. By foregrounding place, educators can incorporate IRL livestreaming into their teaching practices by curating and recommending appropriate livestreamed content, designing activities around it, and promoting learner engagement and interaction. IRL livestreaming empowers learners to take ownership of their language learning journey by allowing them to explore and select content according to their interests and learning goals. This can be through a targeted locale, a favorite streamer, or by the happy accidents of stumbling on something new.

It can also be argued that IRL livestreaming can be an asset in cultural competence development. IRL livestreaming platforms facilitate cultural exchange and help learners develop intercultural competence by exposing them to diverse perspectives, traditions, and communication styles. This especially true by using the chat function and communicating with the streamer or other viewers.

The use of IRL livestreaming in English language learning offers numerous benefits, including authentic language exposure, cultural immersion, interactive learning opportunities, and vocabulary expansion. However, challenges related to language proficiency requirements, content quality, and the lack of structured curricula must be considered. Pedagogical integration and learner autonomy play crucial roles in leveraging the potential of real-life livestreaming for English language acquisition. Future research should focus on investigating effective instructional strategies, designing appropriate curricula, and assessing the impact of real-life livestreaming on language proficiency outcomes.

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Language Assessment Using Word Family-Based Automated Item Generation: Evaluating Item Quality Using Teacher Ratings

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Abstract

The integration of Artificial Intelligence (AI) technologies has initiated a new era in language assessment practices, revolutionizing the field with its innovative approaches. This study introduces an advanced Automated Item Generation (AIG) system that utilizes word families as a foundation to automatically generate test items. The primary objective of this research is to investigate the effectiveness of the AIG system in producing high-quality questions through a comprehensive evaluation that combines both quantitative and qualitative measures. The AIG system is developed using cutting-edge machine learning and deep learning techniques, enabling it to enhance and facilitate the language assessment process by generating a substantial number of items. To assess the quality of the generated questions, a group of 30 experienced English teachers participated in the evaluation process. The participants assessed the quality of multiple-choice and fill-in-the-blank questions generated by the AIG system using a 4-point scale. To supplement the quantitative analysis, interviews were conducted to capture the perspectives of the teachers concerning the integration of AIG in language assessment. The findings demonstrate highly promising outcomes in terms of question quality, validating the efficacy of employing word families as a linguistic basis for generating test items. By shedding light on the advantages and effectiveness of utilizing word families as a fundamental lexical unit for AIG, this study contributes to the field of automated item generation in language assessment.

Keywords: Automated Item Generation (AIG), Intelligent Computer-Assisted Language Learning (ICALL), Language Assessment, Word Families

Introduction

With the recent advancements in Artificial Intelligence (AI), its applications have significantly impacted various domains, and the field of language learning is no exception. In language education, AI has evolved as a powerful tool, introducing innovative methods for learners to acquire proficiency. This evolution extends further into language assessment, where AI applications facilitate and enhance evaluation processes, ensuring more accurate and efficient assessments. The creation of test items is a crucial step in the assessment process which can be facilitated by AI. Typically, teachers invest a significant amount of time and effort in creating test items, resulting in a process that is both time-consuming and costly (Fulcher, 2013). This highlights the need to develop a reliable, efficient, and cost-effective method for generating high-quality test items that align with assessment objectives and accurately reflect the proficiency level of test takers.

Automated Item Generation (AIG) involves the utilization of computer technology to automatically generate test questions based on a predetermined model, combining the expertise of test developers with modern computational techniques (Gierl and Haladyna, 2013). This process employs pre-determined models and algorithms, resulting in the creation of an AIG system which is capable of rapidly generating an extensive number of test items within seconds. Aligning with the demands of the digital age, this capability significantly accelerates the item generation process, offering a wide range of high-quality test items and alleviating the workload of human item developers (Alves et al., 2010).

In the context of this study, the AIG system was specifically designed to employ word families as its primary lexical unit. In linguistic terms, a word family is a group of words which comprises a headword and its derived and inflected forms (Bauer and Nation, 1993). For instance, the headword *able* expands to encompass various derived and inflected forms, such as *ability*, *abilities*, *inability*, and *unable*. By incorporating the diverse forms originating from a single headword, the AIG system ensured a comprehensive coverage of language elements within the generated test items.

1. Methods

The current study included two main phases. Initially, an Automated Item Generation (AIG) system was created, which served as the fundamental element of this research. This was followed by the gathering and analyzing of quantitative and qualitative data, employing a mixed-method approach. The quantitative analysis was conducted through an item evaluation list with the aim of evaluating item quality, while the subsequent qualitative phase involved semi-structured interviews for exploring the participants' perspectives on the potential benefits and challenges posed by AIG.

The created AIG system was designed to generate word-family-based multiple-choice and fill-in-the-blank items for all three grades of Iranian high schools, which include grades 10, 11, and 12. The system was built according to a three-step process proposed by Gierl et al. (2021), with modifications in the second step. The initial step involved identifying the content for item generation, which, in this case were Iranian high school books. The second step included applying this content to an item model, with some adjustments to the original approach to avoid fixed item models. The final step involved the generation of items by the system.

The system was coded using Python programming language, integrating state-of-the-art NLP, machine learning, and deep learning techniques. A deep learning model was trained using SentenceTransformers, enabling the system to assign difficulty levels to the sentences of a corpus, ensuring that the generated questions differed from exact sentences in the books. The sentences utilized in the generated questions were sourced from the Race dataset (Lai et al., 2017). Over 2,000 generated questions were examined, leading to system improvements and enhanced question quality. Provided below are examples of multiple-choice (MC) and fill-in-the-blank (FB) items generated by the system:

MC: Many children use the Internet to get _____ knowledge and information, and to relax in their free time.

a) use b) useful c) used d) usefulness

FB: This online encyclopedia is _____ (write) by thousands of people around the world.

The participants of the study were 30 Iranian English teachers, including 22 females and 8 males. They were recruited through purposive sampling and were required to have at least 5 years of teaching experience in English at Iranian high schools, as well as experience in test design, specifically item generation. Table 1 presents a summary of demographic information on the participants, highlighting an average teaching experience of 9.17 years, ranging from 5 to 20 years and a mean age of 28.60, with participants' ages varying from 23 to 40 years old.

Demographic variable	Minimum	Maximum	Mean	SD
Teaching experience	5	20	9.17	4.18
Age	23	40	28.60	4.87

Table 1: Demographic information of participants

In the quantitative phase of the study, the teachers assessed the quality of 18 automatically generated items using a 4-point scale (Gierl et al., 2021). This scale graded items based on their overall quality, where a score of 1 indicated that the item was considered unacceptable; 2 indicated that major revisions were necessary, 3 denoted the need for only minor revisions, and a score of 4 meant that the item was acceptable with no further revisions required. To ensure a balanced representation across questions formats, the 18 items were evenly divided across 10^{th}, 11^{th}, and 12^{th} grade, with three multiple-choice, and 3 fill-in-the-blank questions per grade. A digital form created with Google Forms was utilized for administering the evaluation list, enabling the teachers to access and submit their assessments digitally.

Semi-structured interviews were conducted to collect qualitative data on participants' perceptions of AIG, which allowed for an in-depth exploration of the participants' viewpoints. The interviews were conducted until data saturation was achieved, indicating that further interviews did not provide significantly new insights beyond what was already mentioned by the participants. A total of 8 interviews were conducted during this phase, mainly focusing on three key aspects: participants' familiarity with AIG, their perceived benefits of using AIG in language assessment, and their perspectives on the challenges associated with the implementation of AIG in language assessment. These interviews were conducted and recorded through online meetings, using *Google Meet*.

2. Data Analysis

Analysis of the quantitative data was performed through *SPSS*, version 27. Within this phase, the study primarily focused on evaluating the quality of the generated test items by teachers. They rated the items on a scale of 1 to 4, as explained above. During this phase, one of the participants was identified as an outlier and was subsequently excluded from the analysis to prevent skewing the results. The mean rating from the remaining 29 participating teachers was 3.58 out of 4, suggesting an overall positive perception of item quality. Additionally, the standard deviation of 0.29 indicated that the ratings were closely clustered around the mean. This implies general agreement among the participants regarding the quality of the items.

The skewness and kurtosis indices presented values of -0.54 and -0.50 respectively. The negative skewness of -0.54 implied that the distribution of ratings was somewhat skewed towards the higher end of the scale (Larson-Hall, 2015), suggesting that more participants rated the items as 'acceptable' or 'needing minor revisions' rather than the items being 'unacceptable.' Similarly, the kurtosis index of -0.50 indicated a uniform and balanced spread of teacher ratings, reflecting a consistent perception among the teachers regarding the quality of test items.

This data collectively indicated a positive inclination towards the quality of the generated items. Teachers predominantly assessed the questions as either acceptable or needing only minor revisions, with a stronger inclination towards the items being acceptable with no need for revision at all. In Table 2, the summary statistics of the quantitative analysis are presented, showing the mean, standard deviation, skewness, and kurtosis values obtained from the teachers' ratings of the generated test items. Additionally, Figure 1 illustrates the distribution curve, depicting the spread of these ratings among the participating teachers.

	N	Mean	Standard Deviation	Skewness	Kurtosis
WF	29	3.58	0.29	-0.54	-0.50

Table 2: Summary of quantitative data analysis results

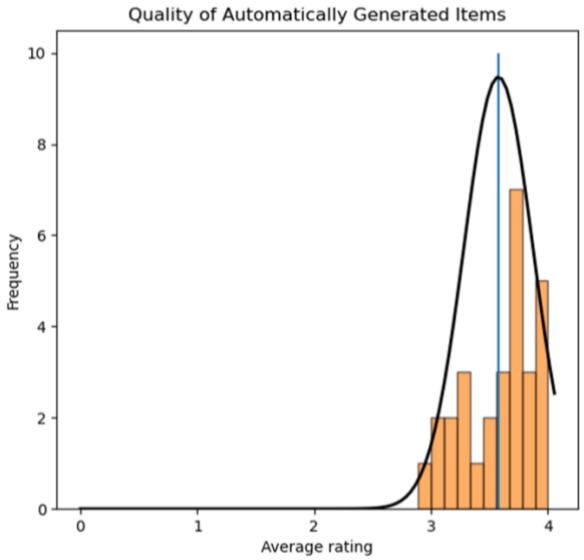

Figure 1: Distribution curve illustrating quantitative results

On the other hand, the analysis of the qualitative data, carried out using MAXQDA 2022 software, revealed distinct themes surrounding the benefits and challenges associated with AIG. Among the benefits highlighted by the teachers, the first was ‘efficiency and time optimization.’ Teachers emphasized that AIG facilitates the otherwise time-consuming process of question generation for both educators and test developers. The next benefit was ‘increased assessment frequency and focus,’ as the participants emphasized that AIG’s ability to rapidly generate questions allows for more frequent assessments throughout the school year. Another significant identified benefit was ‘fairness and objectivity in assessments.’ Participants highlighted AIG’s role in creating standardized assessments regardless of teacher biases or preferences. All in all, these advantages highlight how AIG contributes to elevating both the quantity and quality of assessments.

Regarding the use of AIG in language assessment, the primary challenge mentioned was ‘adapting to student levels and personalization,’ which stemmed from the fact that AIG systems typically follow a standardized approach. Consequently, the generated questions may not align with the individualized needs of students. ‘Diversifying question types’ was also considered a challenge, due to limitations of automated systems in generating a diverse range of question types. Finally, there were concerns around ‘cheating and security’ in case of computer-based delivery of the test. This concern arose from the possibility that students could gain access to question-generation algorithms, potentially risking the security of assessments.

3. Conclusions

In our exploration of the data, quantitative analysis of the data revealed positive ratings (mean=3.58 out of 4) regarding the quality of word family-based automatically generated items. Moreover, interview findings highlighted AIG's efficiency in facilitating the question generation and assessment processes. The combination of this quantitative and qualitative evidence underlines the benefits of AIG in facilitating and accelerating the process of question generation.

Teachers’ positive perception of the AIG system not only confirms its potential but also positions it as a useful tool in AI-driven language assessment and item development. The capacity of AI technology to analyze extensive text corpora and create items suited to specific lexical units and difficulty levels can significantly enhance the quality of assessments. Educators can benefit from these advancements to enhance their utilization of AI-aided item generation effectively.

Moving forward, we aim to diversify question formats beyond conventional multiple-choice and fill-in-the-blank formats. Personalization is another area of focus, aiming to adapt AIG to accommodate various student proficiency levels and diverse learning needs. In addition, exploring alternative lexical units beyond word families will help us expand the scope for more versatile item generation techniques. Finally, our aim is to improve and refine the distractors, to enhance the overall quality of assessments.

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Effects of a New COIL Project Combining Synchronous Discussions and Asynchronous Video-Based-Exchanges

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Abstract

Collaborative Online International Learning (COIL) has been widely conducted in various ways around the world to improve target language (L2) skills and gain intercultural awareness (Carlisle & Sáenz, 2023). Synchronous interactions, such as real-time discussions, require participants to immediately understand their partners' messages and respond promptly. For this reason, synchronous exchanges have often been limited to groups of learners with high L2 proficiency (Hackett et al., 2023). In this study, a new COIL project that combined synchronous discussions and asynchronous video-based exchanges was originally designed to allow learners at lower proficiency levels to participate. This project was conducted to improve L2 skills and deepen cross-cultural understanding between five Japanese university students learning English and eight American university students learning Japanese. In the synchronous exchange, participants gained background knowledge by extensively reading a number of essays on Japanese culture, and then held videoconferences to discuss the essays' content in real time. In the asynchronous exchange aiming to improve English proficiency, Japanese students produced videos explaining Japanese culture in English. American students watched them and made comment videos in English. Japanese students watched them and responded in subsequent comment videos in English. The opinion exchange using English comment videos continued in this manner. Conversely, in the asynchronous exchange to improve Japanese proficiency, American students produced explanatory videos on American culture in Japanese, followed by opinion exchanges using Japanese comment videos. After three months of continuous implementation of this project, questionnaires consisting of five-point Likert scale and open-ended short-answer questions were administered to assess participants' awareness and examine outcomes of the project. Statistically and qualitatively analyzed results of the questionnaires showed that learners with low L2 proficiency found real-time discussion hard to follow because of the difficulty in understanding partners' intentions immediately. The low-proficiency learners preferred video-based exchanges that could be viewed repeatedly. This COIL project was found to be effective, including low-proficiency participants, in accelerating motivation to learn L2, improving L2 skills and deepening cross-cultural understanding. Thus, it was clarified that the combination of synchronous and asynchronous COIL projects was effective for learners with proficiency at various levels.

Keywords: COIL Synchronous Exchange, Asynchronous Exchange, Discussion, Vide Exchange

Introduction

Collaborative Online International Learning (COIL) has been widely conducted in various ways around the world to help learners improve target language (L2) skills and gain intercultural awareness (Carlisle & Sáenz,2023). Synchronous types such as real-time discussions require participants to have immediate aural comprehension and prompt oral production skills. Consequently, higher proficiency learners can follow this type of COIL project but those with lower proficiency cannot. Asynchronous types including exchanges of emails, videos, interactive webs and so forth guarantee learners to have opportunities to review the message repeatedly and plenty of time to prepare oral production. As a result of this, even lower proficiency learners can follow this type of COIL project. COIL projects with only synchronous interactions can be enjoyable for higher proficiency learners, but they can be too difficult for lower proficiency learners. COIL projects with only asynchronous interactions may be suitable for lower proficiency learners but might be less enjoyable for higher proficiency learners as they have to wait for their partners' responses or reactions for a while.

The authors hypothesize that COIL projects combining synchronous discussions and asynchronous exchanges would be effective for classes consisting of participants at various proficiency levels, which we call Combination COIL Hypothesis. A combination of asynchronous and synchronous exchanges can potentially benefit learners of a wide range of proficiency levels. While the inclusion of asynchronous exchanges makes the communicative tasks more manageable for lower proficiency learners, the inclusion of synchronous exchanges allows higher proficiency learners to enjoy spontaneous interaction with their partners.

To examine effects of COIL projects that combined synchronous and asynchronous interactions on participants at various proficiency levels and confirm the Combination COIL Hypothesis, an experiment was conducted.

Method

Participants

Five university students learning English at Soka University in Tokyo, JAPAN, participated in this project. Eight university students learning Japanese at Emory University in Atlanta, USA, joined this project as COIL partners. Three Soka University students were at C1, two were at B1 levels in terms of the Common European Framework of Reference for Languages (CEFR) which is an international standard for describing language ability on a six-point scale, from A1 for beginners, up to C2 advanced learners in the form of "can do list" (See Table 1). Soka University and Emory University have been carrying out this e-tandem project for four years since 2019. The details were reported in Mazzotta & Yamauchi (2020 & 2021).

Tools and Materials

Tools used in this experiment were a cloud application for video-based interactions (Voice Thread), and a video conferencing tool (Zoom) for real-time discussions. Prior to discussions, reading materials about Japanese culture in English were provided to students so that they could deepen their background knowledge on cultural topics in preparation for the real-time

discussions. In order to examine students' reflection on the exchange activities, questionnaires were administered.

Level	CEFR	IELTS (9.0)	TOEFL iBT (120)
Basic user	A1	N/A	N/A
	A2	N/A	N/A
Independent user	B1	0-4	0-31
		4.5	32-34
		5	35-45
	B2	5.5	46-59
		6	60-78
		6.5	79-93
Proficient user	C1	7	94-101
		7.5	102-109
		8	110-120
	C2	8.5	N/A
		9	N/A

Table 1: Comparison between CEFR, IELTS and TOEFL
Adapted from IELTS Expert, 2022

Asynchronous Interaction Procedure

In asynchronous interactions, all students produced and exchanged their self-introduction videos to get to know each other before the project started. In the second phase, Japanese students produced videos explaining Japanese culture such as *Senpai-Kouhai* (the relationship between veterans and new commers), *Keigo* (Japanese usage to express politeness) and so on in English. American students watched them and made comment videos in English. Japanese students watched them and responded in subsequent comment videos in English. The opinion exchange using English comment videos continued in this manner. Conversely, in the asynchronous exchange to improve Japanese proficiency, American students produced explanatory videos on American culture in Japanese, followed by opinion exchange using Japanese comment videos. American students watched them and made comment videos in English. Japanese students watched them and responded in subsequent comment videos in English. The opinion exchange using English comment videos continued in this manner. Five sets of video-based exchanges were conducted with different topics on each exchange.

Synchronous Interaction Procedure

In synchronous interactions, on the other hand, all participants were required to extensively read a number of assigned essays on Japanese culture such as *Omotenashi, Nemawashi* and

so forth, and gain plenty of background knowledge in advance so that they could proceed with deeper and fruitful discussions at the real-time Zoom meeting in the following step.

Students were divided into six small groups and each group held a 30-to-60 minute videoconference using Zoom. They discussed the essays' content and exchanged their ideas on selected topics in real time.

Four Points in the Questionnaires

After three months of continuous implementation of this project, questionnaires consisting of five-point Likert scale and open-ended short-answer questions were administered to assess participants' awareness and examine outcomes of the project. The questionnaires focused on four points: enjoyment the participants had, difficulties the participants encountered, usefulness in improving target languages and deepening insights into different cultures, and the participants' intention to re-participate in the same type of project (see Appendix). The concept of cultural intelligence scale (CQS) was classified into four dimensions: metacognitive, cognitive, motivational and behavioral (Ang et al., 2007; Hackett et al., 2023). The four points in the questionnaire in the present study correspond to the CQS dimensions (see Table 2).

Four points in this study	Four dimensions in CQA
Enjoyment	Motivational
Difficulties	Metacognitive
Usefulness	Cognitive
Re-participation	Behavioral

Table 2: Correspondence between the four points in the questionnaires and four aspects in the cultural intelligence scale

Results

The questionnaire results among Japanese students (# = 5) showed that they viewed this project which incorporated a combination of synchronous and asynchronous exchange positively. The percentages of students' reactions toward enjoyment, usefulness and re-participation of this project were over 80 (see Figure 1).

Among Japanese students, a reaction difference between high proficiency students (# = 3) and low proficiency students (# = 2) was found only in the question on difficulties they had during the project (see Figure 2). In the questionnaire administered just after this project, questions on the difficulties that participants had during the project were given to only Japanese students. The reason for this is that students were required to read a number of essays written in English before the real-time discussion and so they had to devote themselves to extensive and rapid reading activities before the Zoom discussion. While the essays were easy to read for American students, Japanese students were expected to have some difficulties in extensive reading caused by unknown words and phrases.

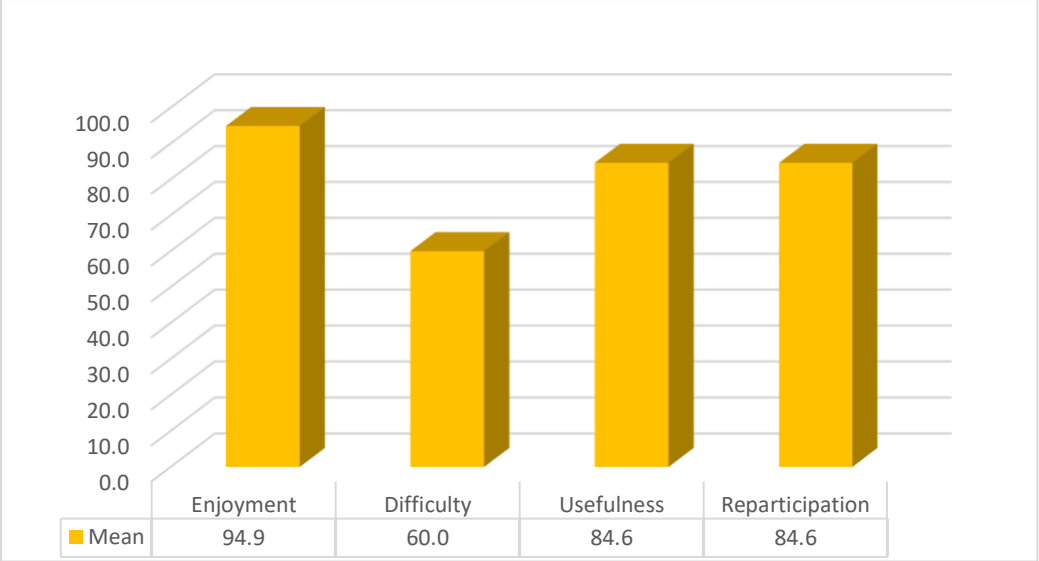

Figure 1: Overall tendencies in the four points

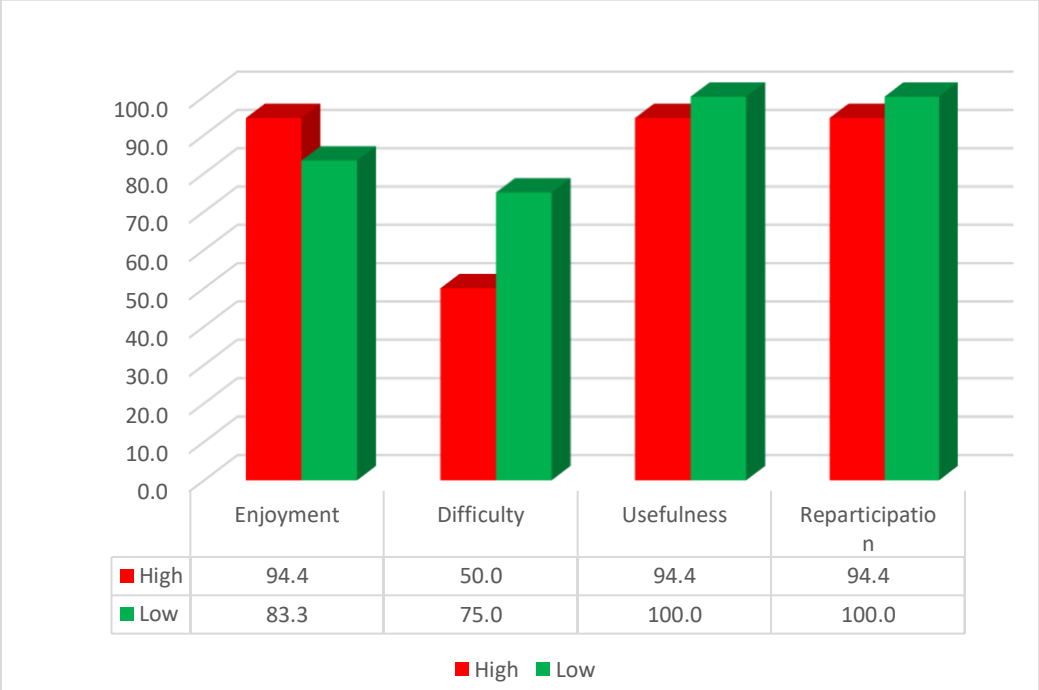

Figure 2: Reaction differences between JP participants at high and low proficiency levels

Regarding the question “Which was more difficult, video-based interaction or real-time discussion?”, over 66 percent of high proficiency Japanese participants felt almost no difficulty in both types of exchanges. Around 33 percent of them felt real-time discussion was more difficult (see Figure 3).

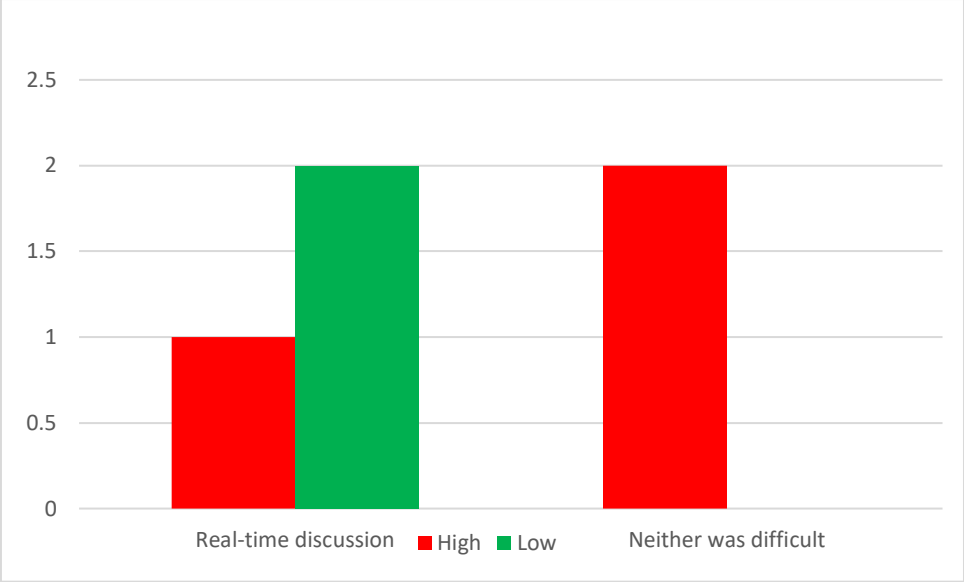

Figure 3: Difficulties the JP participants between high and low proficiency levels

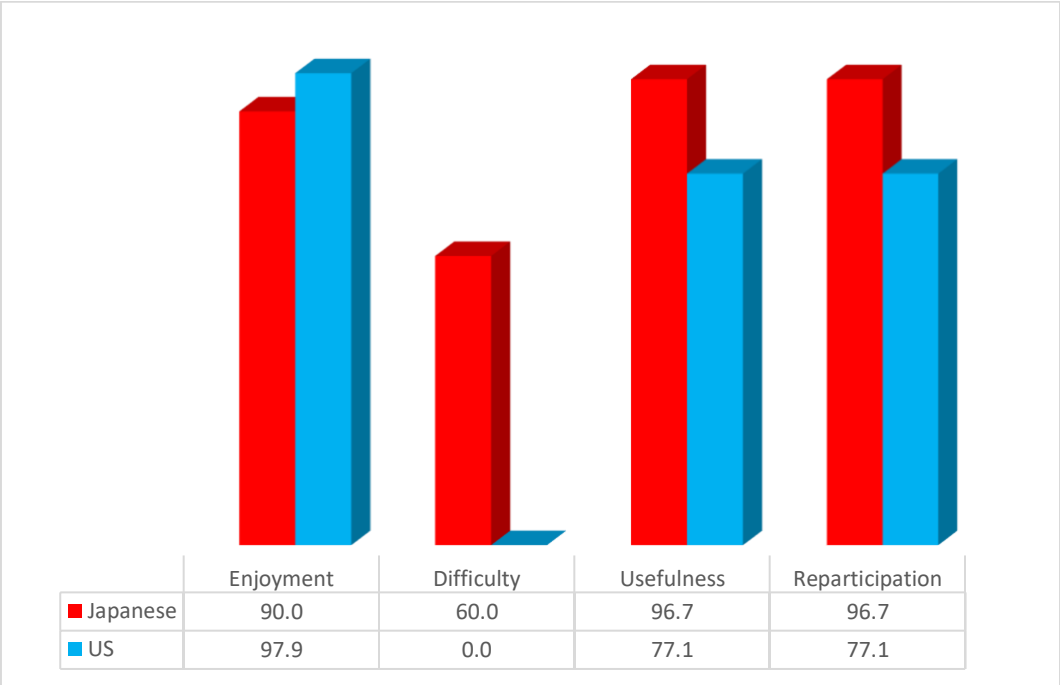

Figure 4: Reaction differences between JP and US students

Differences between Japanese and American students were observed in their reactions toward usefulness and re-participation (see Figure 4, Figure 5 & Figure 6). The differences were found to be statistically significant by Mann-Whitney U test (p=0.007) which examines if statistical differences exist in ordinal data (see Table 3). This result can be interpreted that reading in the target language is useful for the learners. Since all the readings were in English, Japanese students found the project to be more useful for their learning (of English) and thus were more willing to re-participate than American students. There was no significant difference in enjoyment between Japanese and American students (see Figure 7).

						95% CI for Rank-Biserial Correlation	
	W	df	p	Rank-Biserial Correlation	SE Rank-Biserial Correlation	Lower	Upper
Enjoyment	14.000		0.275	-0.300	0.329	-0.753	0.345
Difficulty	NaN[a]						
Usefulness	38.000		0.007	0.900	0.329	0.666	0.973
Reparticipation	37.500		0.007	0.875	0.329	0.594	0.966

Note. For the Mann-Whitney test, the effect size is given by the rank biserial correlation.

Table 3: Results of the Mann-Whitney U test

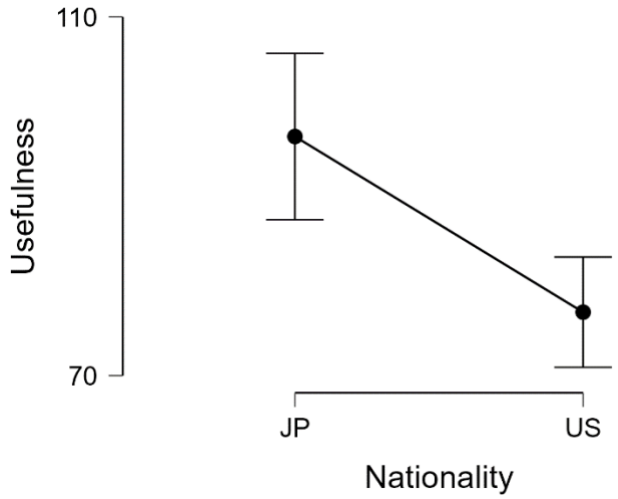

Figure 5: Reaction difference in usefulness between JP and US participants

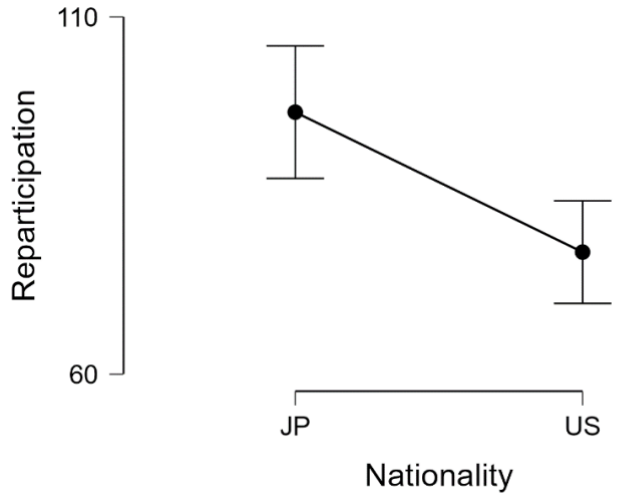

Figure 6: Reaction difference in reparticipation between JP and US participants

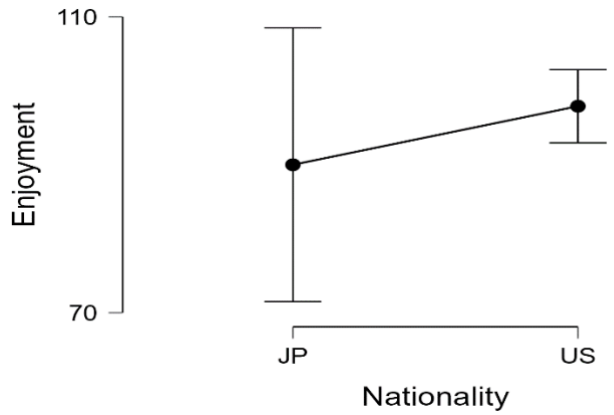

Figure 7: Reaction difference in enjoyment between JP and US participants

Discussion

Almost all participants enjoyed themselves in this project. These results strongly suggest that the COIL project of the present study was successful and effective not only for high proficiency language learners but also for lower proficiency language learners. In addition, all lower proficiency learners felt that real-time discussion was more difficult as shown in Figure 3. Students reported that reasons for this were that it was very difficult for them to understand partners' intentions immediately and make their comments promptly. Lower proficiency learners preferred asynchronous video-based exchanges because they could view the videos over and over again until they understood their partners' messages. The overall percentage of Japanese students' reactions toward difficulties was 60. The percentages of difficulties of high proficiency students was 50, and low proficiency students, 75 as shown in Figure 2. This reveals that low proficiency learners felt more difficulties than high proficiency learners in conducting this project.

Conclusion

This COIL project combining synchronous and asynchronous activities was found to be effective, for both low-proficiency and high-proficiency language learners, in increasing motivation to learn L2, and improving L2 skills. Thus, the Combination COIL Hypothesis proposed in this study was confirmed and the combination of asynchronous and synchronous exchanges turned out to be one of the most effective ways to conduct COIL activities aiming for language learning when participants are at various proficiency levels.

Appendix

Questions focusing on the four points in the questionnaire of the present study:

1. After reading an essay on cross-cultural understanding, we conducted an interview related to the content of the essay. Did you enjoy this combined activity of reading and interviewing?
2. Was it difficult to do the activity which combined the reading and interview?
3. Do you think this combined reading/interview activity will help you develop your target language skills and deepen cross-cultural understanding?
4. Would you like to try this activity again in the future if you have the chance?

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Fostering Learner Autonomy: Web-Based Goal Setting and Self-Evaluation in Japanese Higher Education

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Abstract

This paper examines the influence of a custom web-based application for goal setting and self-evaluation in compulsory English as a Foreign Language (EFL) courses at a Japanese higher education institution. Employing a mixed-methods approach, quantitative data revealed a strong preference for this digital platform over traditional methods, with students setting challenging goals reporting higher self-evaluation scores than those who selected easier goals. Qualitative reflexive analysis generated themes that recognized the merits of reflective learning, and revealed contrasting yet interconnected themes: the empowerment from student-set goals and the structured support of instructor-composed goals. These findings highlight the tool's role in facilitating learner autonomy and engagement, consistent with Goal Setting Theory and Self-Regulated Learning principles, and underscore the potential of digital tools in modern EFL education.

Keywords: EFL Education, Goal Setting, Learner Autonomy, Self-Regulated Learning

WorldCALL Conference 2023 in Chiang Mai, Thailand

1 Introduction

1.1 Background

This paper examines the influence of a custom web-based application for goal setting and self-evaluation in compulsory English as a Foreign Language (EFL) courses at a Japanese higher education institution. Integrating principles from Goal Setting Theory (GST) and Self-Regulated Learning (SRL), the application is tailored to enhance learner autonomy and engagement. GST, inductively developed over decades by Locke and Latham, is a key theoretical element that underpins this study. It underscores the critical role of specific and challenging goals in elevating performance and positively affecting well-being (Latham & Locke, 2007).

Reflective practices are integral to effective learning, serving as a tool for learners to evaluate their progress and adapt strategies accordingly (Little, 2007). These practices contribute significantly to fostering learner autonomy, an essential element in language education highlighted by Benson (2013), which enables learners to assume control over various aspects of their educational experience. Zimmerman's model of SRL supports this view, advocating for an educational approach that encourages students to engage proactively and take ownership of their learning process (Zimmerman, 2002). In EFL contexts, the cultivation of autonomy is not just about active language use; it is about empowering learners to engage in informed decision-making regarding their educational trajectories, a foundation for lifelong learning.

The COVID-19 pandemic acted as a catalyst for the accelerated integration of technology in educational settings, including Japanese university EFL classrooms (Crawford et al., 2020). This shift has introduced new paradigms for educational engagement, as Learning Management System (LMS) usage has become deeply embedded in tertiary-level course instruction.

Students and teachers are becoming increasingly adept at navigating the digital world, yet there still exist wide variances in digital proficiency among both students and educators, highlighting a need for customized training and support for effective technology use (Smith et al., 2020). Within this digital transition, leveraging technology for goal setting presents a promising avenue for enhancing language learning experiences, offering an innovative solution.

1.2 Pedagogical Intervention

Incorporating a web-based application into the EFL curriculum, this study investigated goal setting and self-evaluation through a digital platform integrated with the institution's *Moodle* LMS and its deployment within a learning sequence. The custom application offered three structured goal categories:

- **Basic/Advanced Goals**: Compulsory, instructor-defined goals tailored to course requirements, with 'basic' goals aimed at foundational skills and 'advanced' goals designed to stretch student capabilities.
- **Challenge Goals**: Optional, extracurricular activities to foster deeper language engagement through various mediums.
- **My Goals**: Providing students with the autonomy to set personalized English-related goals.

Students interacted with the application primarily through smartphones, setting their initial goals in the first class of the second semester. Subsequent classes concluded with a self-evaluation phase, where students assessed their weekly progress using a simple and intuitive 1-5 star rating system. This system was deliberately chosen for its ease of use and widespread familiarity. Figure 1 displays the application's interface, featuring both the initial goal setting and the weekly self-evaluation components.

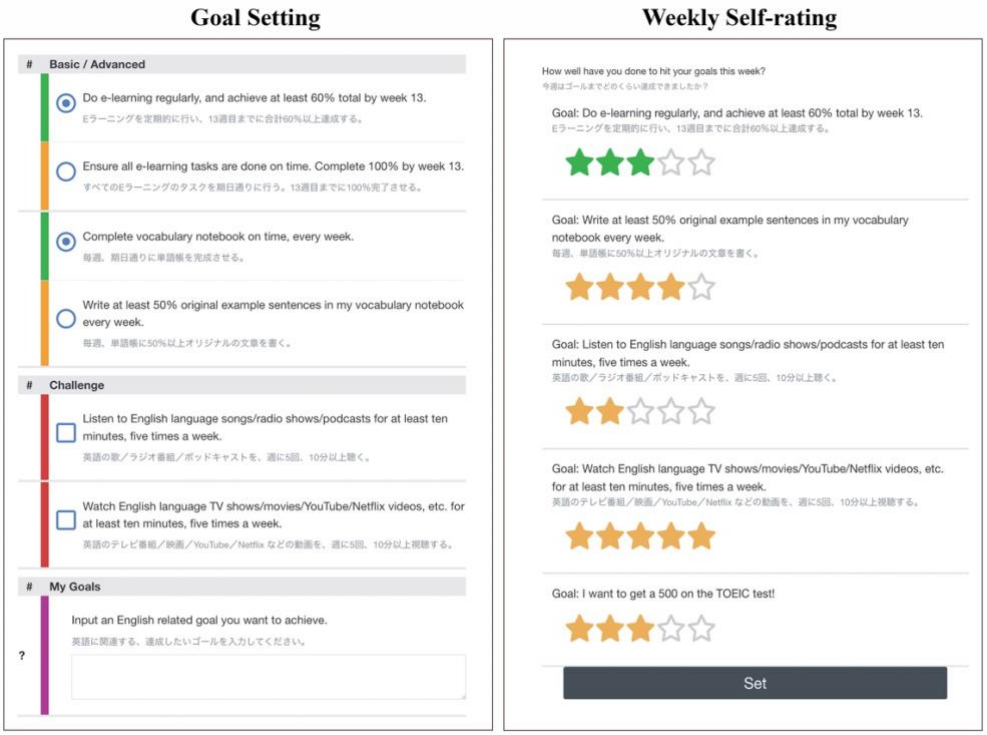

Figure 1. Examples of goal setting and weekly self-rating pages from the student interface

To facilitate continual reflection and progress monitoring, the application featured a goal review history page, accessible to both students and instructors. The bilingual interface of the application catered to the linguistic comfort levels of all users, with all Japanese text vetted for accuracy by native speakers, ensuring clarity and comprehensibility.

1.3 Methodology

The study's participants comprised eighty-eight first- and second-year Japanese university students, enrolled in compulsory EFL speaking and listening courses. They had been previously assessed using the Visualizing English Language Competency (VELC) test, with an average equivalent TOEIC® score of 375, indicative of a basic English proficiency level as per the CEFR A2 standard (Tannenbaum & Caroline Wylie, 2019). All students took part in paper-based goal setting during the previous semester’s classes, facilitating comparison between the two approaches.

A mixed-methods framework, featuring an equal status concurrent design in line with Creswell’s (2022) methodology, was employed. This approach aimed to provide a comprehensive understanding of the web application's impact on EFL learning. By integrating empirical data with participant narratives, the study endeavored to inform effective pedagogical strategies and guide future research in the realm of digital language education.

The quantitative component of the study involved analyzing system usage data and closed-ended survey responses with JASP statistical software. Non-parametric tests were employed due to the data deviating from a normal distribution. Concurrently, qualitative data from open-ended survey responses and practitioner analytic memos were scrutinized. This examination led to the generation of themes in accordance with Braun and Clarke's (2022) reflexive thematic analysis methodology.

The specific aims of the study were as follows:

- **Qualitative Aim:** To understand student experiences with the digital platform, assessing its influence on EFL learning engagement and motivation.
- **Quantitative Aim:** To explore student preferences for goal setting methods in EFL courses and to analyze the impact of goal difficulty level on self-evaluations.
- **Mixed-Methods Aim:** To integrate findings across methodologies, evaluating the web application and its deployment's effectiveness in supporting goal setting and self-evaluation for EFL learners.

2. Findings

2.1 Qualitative Findings

The qualitative analysis of the study revealed five salient themes that reflect student and practitioner perspectives on the online goal setting and self-evaluation tool and its use within classes:

Theme 1: A place for reflection on learning. Students perceived goal setting and self-evaluation as useful through enhancing self-awareness and behavior modification. Regular self-evaluation prompted reflection, with students noting improvements in motivation and task completion. Despite its benefits, a minority found frequent self-evaluation taxing. Social interactions around self-evaluations provided peer support and accountability. The goal review history page proved valuable in facilitating discussions on effort and progress, demonstrating the reflective capacity enabled by the web application.

Theme 2: Guided goal setting scaffolds learning. Students appreciated the clarity and direction provided by teacher-composed goals. This guidance was particularly welcomed by those who found setting their own goals daunting. Offering a choice between 'basic' and 'advanced' goals allowed students to engage at a level that matched their motivation and interest. This scaffolding by guided goals offered a balance between the need for direction and the desire for autonomy, prompting some students to strive for more challenging objectives than they might have set on their own. It was noted that guided goals often provided specificity and measurability, which some students felt might be lacking in their self-devised goals.

Theme 3: It's better to write your own goals. Contrastingly, many students favored the personalized nature of self-set 'my goals', valuing the autonomy they provided. These goals allowed students to align their learning with personal aspirations, leading to a deeper engagement with the material. Self-composed goals were seen to promote introspection, helping students define their learning paths and enhance their metacognitive awareness. The responsibility of crafting their own objectives also empowered students, making the learning process more memorable and enjoyable, and their achievements more satisfying.

Theme 4: 'Challenge' goals extend learning beyond the classroom. 'Challenge' goals effectively broadened the scope of language learning, as students actively sought English exposure in day-to-day life, from watching English media to listening to music. Such activities, chosen willingly, reinforced language skills and fostered a practical engagement with English, beyond the classroom. Students expressed that these self-selected 'challenge' goals sparked an increased motivation, as they resonated with personal interests and integrated naturally into their routines. Teachers also found these goals instrumental in prompting discussions about additional study resources, reinforcing the value of autonomous, extracurricular learning endeavors.

Theme 5: The online medium suits today's learners. Students showed a strong preference for the online platform due to its convenience and accessibility, favoring it over paper methods. They valued the ability to easily modify goals and appreciated the ease of access that the web application provided. Despite global digitalization trends and the benefits of instant access to their goals on various devices, a minority of students noted the lack of physicality and potential technical glitches as downsides. This theme highlights the growing inclination towards digital solutions in education, aligning with the technological aptitudes of today's learners.

These themes reflect the students' experiences and perceptions, as interpreted through the lens of the teacher-researcher. They illustrate the varied ways in which the digital tool was engaged with and perceived by the students, offering insights into their preferences, challenges, and the overall impact of the tool on their language learning journey.

2.2 Quantitative Findings

In the quantitative analysis of web application data, the weekly self-evaluation process revealed that students assigned higher ratings to 'advanced' goals compared to 'basic' ones. The statistical tests identified a significant difference in the self-ratings between these two goal types, with 'advanced' goals receiving an average of 0.54 more points. When considering students who exclusively selected 'advanced' goals, they rated themselves an average of 1.41 points higher than those who selected only 'basic' goals, a finding that was statistically significant with a moderate effect size.

Goal Type	Goals Set	Average Rating (mean)	SD
Basic	203	3.31	1.61
Advanced	149	3.85	1.42
All Basic	68	2.92	1.57
All Advanced	48	4.33	1.22

Table 1. Goal Categories Selected

Closed-ended survey responses collected during the latter part of the semester reflected a pronounced preference for the digital medium over traditional paper-based approaches for goal setting (displayed below in Figure. 2), a difference that was both statistically significant and moderate in terms of effect size. The mean preference for online goal setting was markedly higher than for paper-based methods.

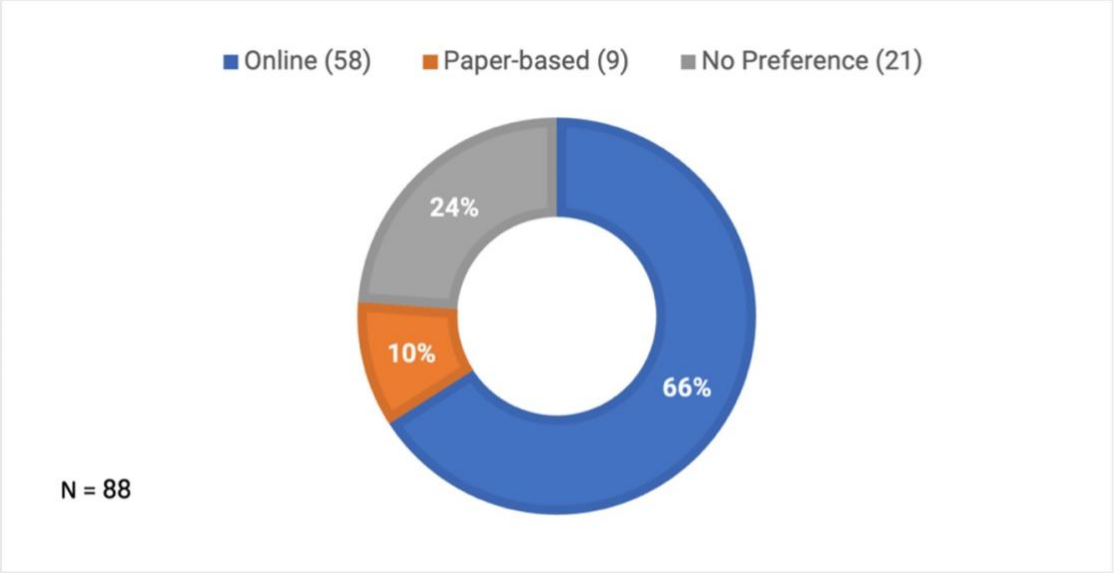

Figure 2. ‘Which did you prefer, goal setting and self-evaluation on paper or online?’

3. Conclusions

This study, employing a mixed-methods approach, provides insight into the use of web-based goal setting in an EFL context. The qualitative findings bring to light the nuanced experiences and perceptions of students and educators regarding the application. Themes such as the importance of 'challenge' goals and the preference for digital mediums underscore a trend towards more autonomous and technology-driven learning strategies. These insights align with the principles of SRL, showcasing how the application supports reflective learning and autonomy.

The quantitative data complements these qualitative insights by revealing patterns in students' goal setting preferences and self-evaluations. The tendency of students who opted for 'advanced' goals to assign themselves higher ratings aligns with GST's emphasis on the motivational benefits of specific and challenging goals. This aspect of the study indicates a positive relationship between goal difficulty and self-evaluation, a key element in effective goal setting.

When viewed together, the quantitative and qualitative data suggest a complex interplay between structured guidance and personal autonomy in the learning process. While students value the clarity and direction provided by the teacher-composed goals, they also exhibit a strong desire for setting personal goals. This dual preference reflects a modern educational landscape where learners seek a balance between guided learning paths and opportunities for self-directed growth. The enthusiastic response to ‘challenge’ goals underscores the interest of non-elective language students in learning-oriented goals, beyond just performance-focused ones, emphasizing the value of providing opportunities that cater to broader aspects of language learning.

This study calls for a nuanced approach to EFL pedagogy, highlighting the integral role of digital tools in going beyond mere convenience. They are essential in fostering engagement, autonomy, and reflective practices. By merging traditional methodologies with cutting-edge digital solutions, tools like the web application explored in this research offer a more dynamic and effective approach to language learning. Such integration not only resonates

with contemporary educational theories but also meets the evolving needs and preferences of today's learners, pointing towards a shift to more personalized and adaptive educational strategies.

In conclusion, this research demonstrates the significant role digital tools play in enhancing goal setting and self-evaluation in EFL learning. It emphasizes the necessity for EFL pedagogy to progress alongside technological advancements, ensuring that language education is relevant and effective in a digitally driven educational landscape. The findings also pave the way for further research into the long-term impacts of these tools on language acquisition and the development of learner autonomy.

4. Acknowledgements

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Leveraging Online Professional Learning Communities to Address the Challenges in Japanese Language Education: The Case of the Boston x New York Study Group

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WorldCALL 2023 – CALL in Critical Times
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Abstract

Japanese language education in the United States is currently confronted with an existential challenge: a severe shortage of teachers, as evidenced by the increasing average age of Japanese language educators and the retirement of experienced professionals (Hoogenboom, 2022). In light of this situation, it becomes crucial to explore how we can leverage online professional learning communities to cultivate collaboration among teachers and enhance our ability to maintain a critical mass of effective Japanese language educators. To address these challenges, the Boston x New York Study Group (BNYSG), was established in 2022. This initiative is designed to foster a sense of community among educators across the spectrum of Kindergarten to Grade 16 by using the World-Readiness Standards for Learning Languages (NSFLEP, 2015) as our vision, thereby promoting professional growth and knowledge sharing. In BNYSG's professional development sessions, we apply the Community of Inquiry (CoI) framework (Garrison, Anderson, & Archer, 2001) for online pedagogy. By basing our sessions on the three presences, teaching, cognitive, and social, we create a space for Japanese language educators to interact effectively in support of each other's teaching contexts. To optimize this professional development time, we implement the Synchronous Online Flipped Learning Approach (SOFLA®), which uses an 8-step learning cycle to engage participants in synchronous online settings, thus facilitating deep dialogue and collaboration among teachers (Marshall, 2017; Marshall & Kostka, 2020). The online format of BNYSG removes geographical and affiliation-based limitations, enabling equitable participation for teachers at all levels. This deliberate choice promotes inclusivity and equal engagement opportunities. It also ensures that we stay current and continue progressing toward a clear and guiding vision in our language teaching. Moreover, encouraging discussions and dialogues within the community regarding the latest theories, teaching methods, and technologies, including Generative AI Systems, promotes staying current and up-to-date. Within this community, it becomes easier to explore and experiment with new initiatives and approaches. The paper shares the current status of BNYSG, the frameworks we draw from (CoI and SOFLA®), and various new pedagogical projects derived from the members who share similar visions and awareness for the issues involved.

Keywords: Online Professional Development, Community of Inquiry (CoI), Synchronous Online Flipped Learning Approach (SOFLA®), World-Readiness Standards for Learning Languages (W-RSLL), Diversity, Equity, Inclusion (DEI)

Introduction

Japanese language education in the United States is facing a critical teacher shortage, necessitating the exploration of online professional learning communities to foster collaboration and retain effective educators. The Boston x New York Study Group (BNYSG), founded in 2022, is a community of Kindergarten through Grade 16 (K-16) educators, guided by the World-Readiness Standards for Learning Languages. BNYSG utilizes the Community of Inquiry framework and the Synchronous Online Flipped Learning Approach (SOFLA®) for an online pedagogy and emphasizes teaching, cognition, and social presence to promote effective interaction among Japanese language educators. The BNYSG's online format eliminates geographical affiliation-based restrictions and promotes equal opportunity for teachers at all levels to participate. Community discussions covering theory, teaching methods, and technology enable educators to stay current and explore new approaches. This paper presents the current status of the BNYSG, outlines the frameworks used, and shares our work and visions for the collaborative online community.

1. Boston x New York Study Group (BNYSG)

1.1 Background of BNYSG Established

Currently, the number of institutions offering Japanese language education in the U.S. is decreasing. According to Saito, Graham, & Tsuda (2022), the number of K-12 educational institutions in New England, U.S. that provide Japanese language classes has been shrinking for the last four years. Moreover, the aging of educators and their consequent retirement becomes an issue (Hoogenboom, 2002). The Japanese teachers in the U.S. face a fear that the knowledge that has been cultivated up to this point might be lost. Therefore, our Boston x New York Study Group (BNYSG) is working to continue the legacy of Japanese language education and raise the level of educators by creating horizontal connections.

Table 1: The number of K-12 educational institutions in New England, U.S.

	K-5	6-8	9-12	Total
2018	8	5	10	23
2022	6	4	7	17

(Saito, Graham, & Tsuda, 2022)

1.2 Principal of BNYSG

BNYSG was founded in 2022. The goal of this study group is to promote effective interaction among Japanese language educators and develop their skills. We adopt SOFLA® to reach out to Japanese language educators. There have been seven study sessions by November 2023 and each study session has an average attendance of about 50 people from everywhere in the world. BNYSG uses World-Readiness Standards for Learning Languages (NSFLEP, 2015) as our vision and creates unit plans for teaching the Japanese language that are available to everyone in the public.

World-Readiness Standards for Learning Languages was collaboratively developed by language associations in the U.S such as the American Council on the Teaching of Foreign Languages (ACTFL), the American Association of Teachers of Japanese (AATJ), the

American Association of Teachers of French (AATF). This is the implementation of the Standards for Foreign Language Learning: Preparing for the 21st Century (1996) and Standards for Foreign Language Learning in the 21st Century (2006) (National Standards in Foreign Language Education Project (U.S.) & American Council on the Teaching of Foreign Languages, 2015). The standards "define the central role of world languages in the learning career of every student (ACTFL)".

The standards show five goal areas of communication, culture, connection, compassion, and communities (Figure 1). The standards will lead the way for learners to develop the ability to communicate effectively and interact in a culturally competent manner to participate in multilingual communities in their own countries and around the world. In the U.S., some states such as New York and California states are creating their state standards based on these standards and they show the achievement goals within the framework of K-16 (Tohsaku, 2021).

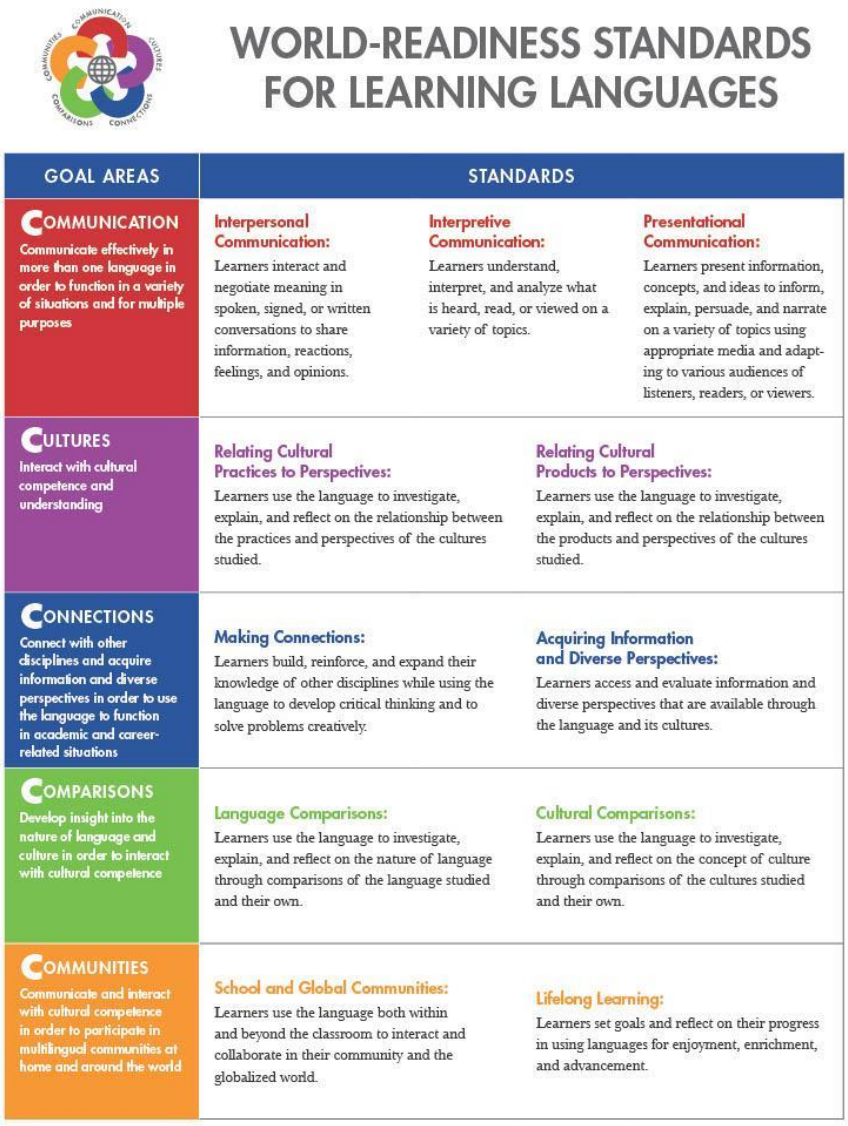

Figure 1: World-Readiness Standards for Learning Languages

2. DEI of BNYSG

The most salient feature of BNYSG is its unique approach, where there are no hierarchies, obligations, titles, or financial incentives. Instead, it thrives on the simple willingness of individuals to be part of our collaborative planning team.

Our common goal is to provide practical resources to fellow teaching professionals, encouraging mutual support in everyday teaching practices while nurturing personal and professional growth. We believe that learning opportunities should be accessible to all, whether you're a teacher, a pre-service educator, or simply someone eager to learn. Guided by this, BNYSG offers workshops open to any Japanese language educator in search of learning opportunities.

2.1 Four Key Areas of DEI

Our guiding principles are Diversity, Equity, and Inclusion (DEI), and we focus on four key areas: access, workshop format, material sharing, and bidirectionality (feedback).

We are committed to making workshops available to everyone, regardless of geography, affiliation, grade level (K-16), Japanese as a foreign language, Japanese as a heritage language, native speaker or non-native speaker, or professional background including experience and employment status. There are no participation fees, and all workshop materials are readily accessible. We schedule workshops at times suitable for educators in both the US and Japan.

Our workshop format is based on the SOFLA®, involving pre-work such as video viewing or document reviews to ensure everyone is on the same page. This approach helps new participants catch up easily and allows anyone to join at any time.

Materials created for the workshop and those generated by participants are shared freely. We plan to make these materials officially available as Open Educational Resources (UNESCO, 2019). After each workshop**,** we seek participant feedback through surveys to enhance future workshops.

For Breakout room discussions, which are allocated a large chunk of time, we create and pre-assign diverse groups, including different levels (college and middle/high school teachers), experience, and context. This mix enables educators at different levels to interact, exchange insights, and learn from each other's unique teaching experiences. At the end of the workshop and afterward in a separate email, we request participants to complete a survey with free comments, and this provides insights to improve future workshops.

3. Community of Inquiry

The professional development sessions by the BNYSG adhere to the Community of Inquiry (CoI) model, as conceptualized by Garrison, Anderson, and Archer (2001), focusing on the interplay of teaching, social, and cognitive presences in online learning. The model emphasizes that each presence is crucial for a successful learning experience (Figure 2).

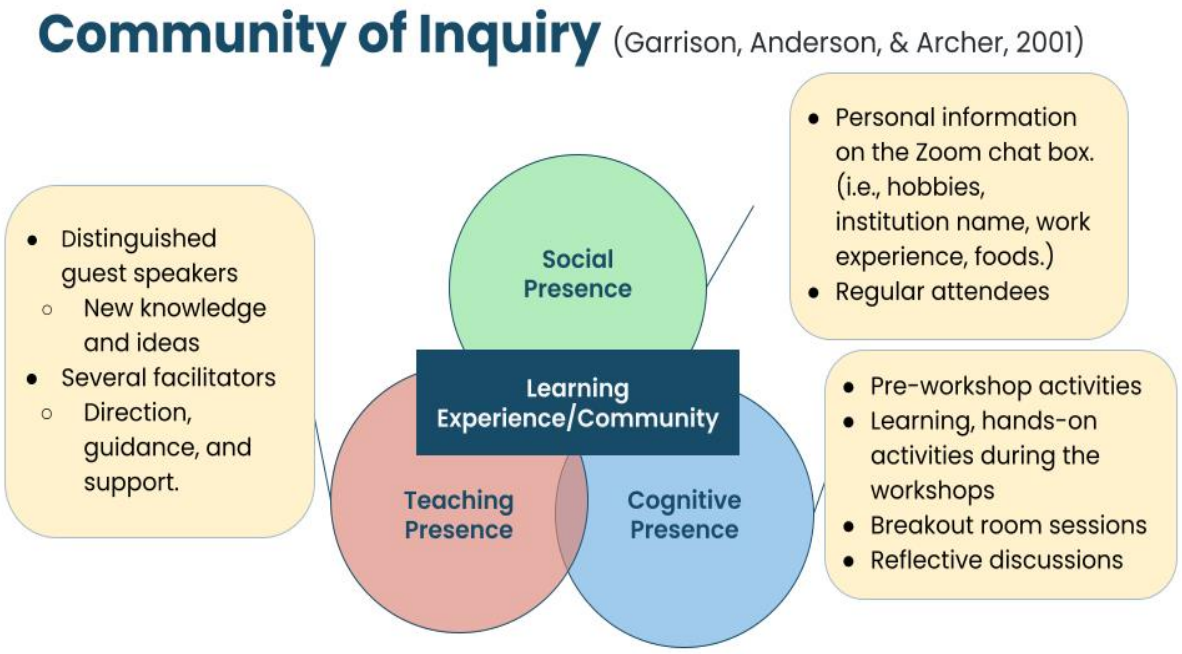

Figure 2: Community of Inquiry of BNYSG

Social presence, vital for creating a safe and engaging learning environment, is fostered through personal interactions in our workshops. Participants are encouraged to share personal and professional details, using creative methods like food metaphors to build a robust communal atmosphere. This approach has led to regular attendance and peer familiarity, reinforcing social connections.

Cognitive presence, the ability to construct and validate meaning through sustained communication, is promoted through pre-workshop activities like reviewing videos or reading materials. During workshops, challenging and collaborative activities, such as creating backward-design unit plans focusing on social and environmental issues, stimulate deep thinking. These activities are shared and discussed in breakout rooms, culminating in reflective group discussions to ensure applicability in teaching contexts.

Teaching presence involves designing and facilitating these processes to enhance learning outcomes. We invite guest speakers and conduct lectures and workshops, like the recent AI-focused sessions with Dr. Yasu-Hiko Tohsaku on "Utilization of AI such as ChatGPT in Japanese Language Education." Expert facilitation in breakout rooms and active participant engagement is key to the effectiveness of our sessions.

Overall, we aim to structure sessions around the CoI model's presence to create an environment conducive for Japanese language educators to interact effectively, know each other, and support each other in their unique teaching contexts, enhancing both the teaching and learning experience.

4. Workshop Format: SOFLA®

BNYSG utilizes SOFLA® as the primary format for its online education workshops. The template of SOFLA® is a revolutionary approach to online learning that draws from both the

Col model for online teaching and the principles of flipped learning (Bergmann & Sams, 2012). This approach provides a robust structure for the integration of synchronous and asynchronous components, to meet the diverse needs of learners in online environments. The eight-step learning cycle in SOFLA® includes 1) Pre-Work, 2) Sign-In, 3) Whole Group Application, 4) Breakouts, 5) Share-Out, 6) Preview and Discovery, 7) Assignment Instructions, and 8) Reflection (Figure 3). These steps are carefully crafted to create a fertile space for online learning.

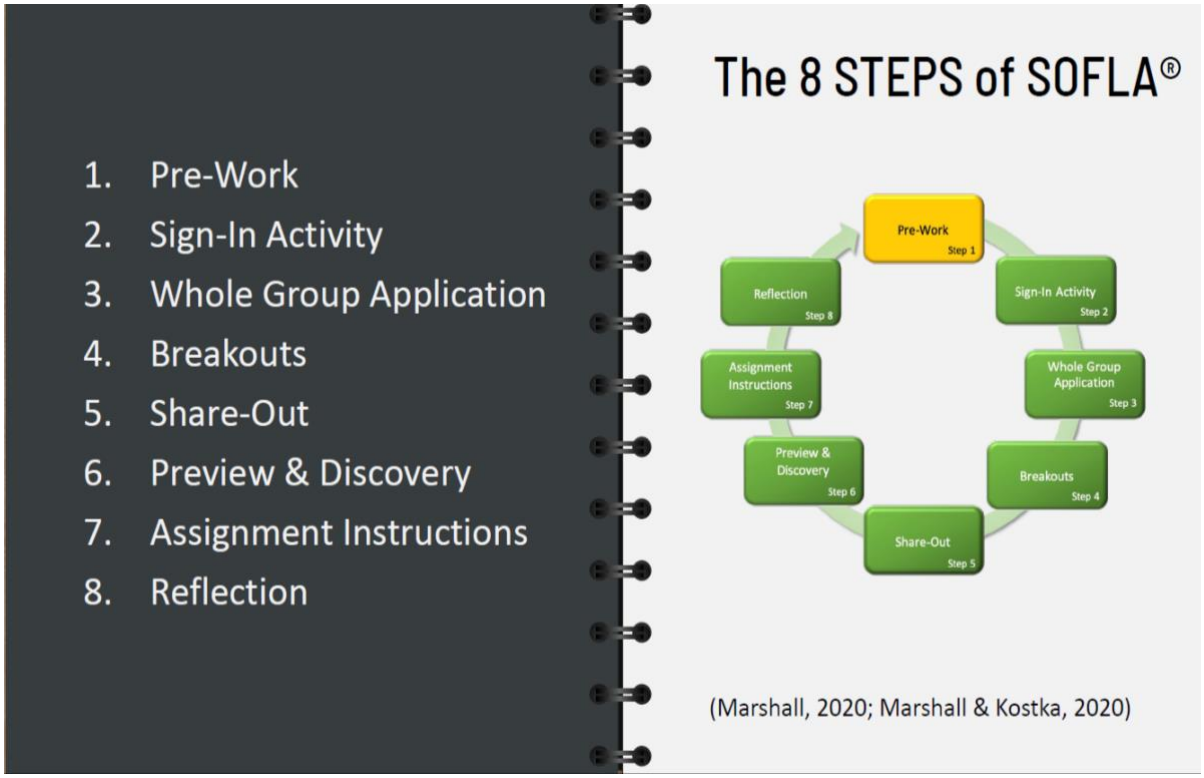

Figure 3: Synchronous Online Flipped Learning Approach (SOFLA®)

BNYSG's planning team engages in strategic brainstorming sessions to discern the content suitable for preparatory activities and the material best suited for hands-on engagement, thus emphasizing the deliberate and thoughtful approach underpinning the SOFLA® framework.

4.1 Prework Materials

In the past, prework materials for BNYSG sessions included the following resources:

- Webinar lecture videos: These videos provide in-depth content and explanations to help participants understand key points related to the session topic.
- Explanatory videos: These videos offer additional support and clarification on important concepts.
- Surveys: Participants are encouraged to complete surveys to gather information about their knowledge and understanding of the topic before the session.
- Reading materials: Supplementary materials are provided for participants to review and prepare for the session.

4.2 Session Design

The planning team carefully designs the sessions to ensure a seamless experience for participants. The sessions are structured in a way that:

- Evokes participants' past knowledge: The sessions aim to activate participants' prior knowledge and connect it with the session's content.
- Provides a high-level overview: New participants are given a summary of the previous sessions' topics and discussions, providing them with a contextual understanding before joining the synchronous session.

4.3 Synchronous Session

During the synchronous session, the following activities take place:

- Agenda and objectives review: The session begins with a review of the agenda and the workshop's objectives, allowing participants to understand what will be covered.
- SOFLA® framework: The activities during the session follow a template from the SOFLA® framework, which helps achieve the workshop objectives.
- Preview & Discovery: Step seven of the SOFLA® framework provides participants with a preview of upcoming BNYSG sessions and introduces new activities inspired by BNYSG.
- Public announcements and camaraderie: This step also offers participants the opportunity to make public announcements and fosters a sense of camaraderie within the online community.
- Reflection: The final step of the SOFLA® framework is Reflection, where not only anonymous voices from participants are heard, but also dedicated time is set aside for the planning team to reflect on each other's insights and experiences.

This comprehensive approach ensures that participants receive a well-structured and engaging experience during the BNYSG sessions.

5. New Initiatives

In our collaborative efforts within this online professional learning community, three noteworthy projects have developed, fostering a community where Japanese teachers from different institutions, regions, and backgrounds engage, learn, and find inspiration for continued pedagogical exploration.

5.1 Dialects Project

The 'Japanese Dialect Project', spearheaded by a committed team of Japanese teachers in the New England region, who were volunteers, began in the fall of 2022 at the ACTFL Convention. The primary goal of the project is to create an open educational resource that promotes the teaching of dialects in Japan, showcasing the diversity of the Japanese language. The audio recordings have been made publicly available on the Miro workspace application, serving as valuable educational resources for Japanese language learners and teachers. These recordings, featuring speakers, including native Japanese speakers and individuals who have learned Japanese as a second language from around the world, highlight the unique qualities of their respective hometowns or personally significant places in their regional dialects. It has

inspired members of the BNYSG to integrate regional dialects into their lesson plans, providing an unconventional element not commonly found in traditional textbooks.

5.2 Human Library for Japanese Teachers

The online Human Library for Japanese Teachers (HLJT) draws inspiration from the Human Library that originated in Denmark in 2000. In this platform, Japanese teachers of diverse backgrounds share their life stories as "human books" and engage with participants on Zoom. Anonymous story summaries are provided beforehand, creating an intriguing first encounter in the breakout room where participants discover the identity of the "book" author. The one-hour online event allows participants to connect with two "books" in 25-minute sessions each, including Q&A time that evolves into an important dialogical space. Initially targeting educators in the New England region, HLJT now boasts participants from across the U.S. Post-surveys indicate that these encounters foster learning, self-reflection, and inspiration for both "books" and "readers." Future plans include inviting more diverse "books," including non-native speakers, adjunct faculty, and pre-service teachers.

5.3 Five-Minute Spotlight

The 'Five-minute Spotlight' event, following the NECTJ Summer Workshop in August 2023, showcased 12 BNYSG members presenting their recent practices and projects in concise five-minute presentations. Following each presentation, a shared document facilitated comments and questions, with approximately one minute allocated for responses. This event provided a unique opportunity for K-16 teachers to share their practices, especially those facing constraints such as budget, time, or institutional culture, who might not typically present at regular conferences. The succinct presentations offered fresh perspectives from various institutional levels, well-received by participants. The use of Google Docs for anonymous comments and questions encouraged wider engagement, fostering a sense of community as presenters responded to inquiries during and after the Workshop.

6. Perspectives

Our study group's perspective is rooted in a commitment to lifelong learning, integrating AI technology, and enhancing regional education through innovative curriculum development and K-16 articulation. This approach marks a significant departure from traditional educational methods, as evidenced by the comprehensive quality and scope of our offerings.

Central to our innovation is the creation of the 'Human Library' for personal knowledge exchange and the 'Dialect Database' to preserve linguistic heritage. Alongside these, our AI-enhanced learning initiatives support sustainable education and celebrate diversity, with activities like bilingual and multilingual contests enriching the international educational landscape. This aligns with our group's philosophy of promoting borderless education, firmly grounded in the principles of DEI.

Strategically, we balance our initiatives to maximize impact. Small-scale projects, such as personalized learning paths and community workshops, deliver significant local benefits with modest resources. Conversely, larger-scale endeavors, like integrating AI in education, require greater investment but promise wide-reaching, transformative effects. Thus, our study group emphasizes innovative AI integration and curriculum development in education,

balancing local and global initiatives to foster a diverse, sustainable, and transformative learning environment.

7. Conclusion

In conclusion, our educational tactics encompass a broad spectrum, ranging from intricate, detailed initiatives to expansive, sweeping reforms. Our approach intertwines these two scales: the minute, detailed methods act as catalysts for transformation, while the extensive strategies provide a fertile ground for these changes to take root and thrive. This dual approach underscores our commitment to enhancing and broadening educational access at every level. Moving forward, we recognize that each incremental step is a crucial component of a more extensive, transformative journey. By juxtaposing micro and macro strategies, this paper highlights the significance of a multifaceted approach, one that addresses both immediate, localized needs and broader, systemic reforms. This balanced strategy ensures comprehensive coverage, catering to the immediate, tangible aspects of education as well as the overarching structural changes necessary for sustained progress. In doing so, we will strive to grow through the online professional development community in the BNYSG and worldwide partnerships.

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Resources

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Tripping Over Cables: Discussing Tech Pitfalls and Working Toward a Positive Framework

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Conference Proceedings

Abstract

The resources and learning opportunities that technology offers educators are well documented. Its urgent relevance came to light through the learning environment of 2020-2022, but with most institutions easing back to face-to-face structures, teachers need to re-evaluate the use and purpose of technology in their classrooms. Duoethnographic dialogues are held between two Digital Natives working in secondary and tertiary schools in Kansai, Japan to explore their beliefs and understandings. Through dialogues and discourse, our excitement towards new developments, our use and practices, and the difficulties and failures of a poorly directed push towards tech in the classroom. Similarities and differences are drawn from our lived experiences, allowing us to explore educators' limitations on technological skills, knowledge and comforts, students' access and familiarity, and institutional guidelines and provisions. We discuss the benefits and pitfalls of technology in the classroom and question its necessity, particularly as a motivational pathway or social equalizer. Through this discussion, we aim to suggest when a low- or no-tech approach might be more effective, and how tech integration can lead to better working conditions, more productive learning environments, and a better understanding of student needs.

Keywords: No-Tech Approach, Technology in the Classroom, Accessibility, Digital Literacy, Motivation, Ed-Tech Framework

Introduction

We are currently in one of the fastest-shifting periods of educational technology usage, across and blending the taxonomies introduced by Selwyn (2013). Institutional drives toward technology have been accelerated by recent remote-teaching requirements, with this newfound availability of devices opening diverse new classroom approaches. However, adoption is rarely uniform within an institution and many adaptations necessitated by the online shift of 2020-2022 were rushed through with minimal scrutiny. Many teachers, learners, and institutions now face technology they may not have selected, requested, or received training for. This highlights issues already present within education, as widening disconnects between these three vital links - selection, training, and guidance - can have negative impacts on learner outcomes and the wider classroom environment.

The two researchers had already experienced and witnessed examples of these disconnects within their teaching contexts: kindergartens, private language schools, high schools, training colleges, and universities as both full-time and part-time employees in Japan, South Korea, Australia, and the U.K. While both are advocates for tech adoption and excited by its possibilities, they have had issues within their own practice and increasingly observed issues more broadly in their workplaces and learner cohorts post-2022. Through an earlier phase in this research, they explored having felt their way through these issues, without clear connection to or background in Computer Aided Language Learning (CALL) and the approaches and inspirations that are available within its canon. As the research developed through further dialogues, an urgent need for a user-friendly, accessible, and flexible framework for evaluating the educational utility of technology became apparent. They hope that a wider attitudinal study, more closely referenced to CALL research can lead to a productive and flexible model for future use.

Methodology

Approach

A Duoethnographic approach resulted from discussions between the contributors prior to the research. Duoethnography formalised these discussions using a collaborative, qualitative method, utilising their ongoing dialogues. Through this method, they were able to explore their histories, beliefs, and practices relating to CALL, and explore the differences in their experiences (Brereton & Kita, 2020; Norris & Sawyer, 2012). First, starting topics were chosen for recorded discussions. Through transcript analysis, the researchers were able to identify key themes, underlying issues, and points of interest to be further explored (Lowe, 2018). These initial discussions resulted in an earlier presentation entitled *"Tripping over Cables: When technology slows us down"* (Hook & King, 2023) which outlined the issues surrounding the researchers' experiences of technology in education.

Shared Histories

The researchers conducting this investigation are self-described 'Digital Natives', having had access to technology in their homes and schools from a young age. As Gillis (2020, para. 1) states, Digital Natives "have spent nearly their entire lives surrounded by computers, digital devices and the world of social media" making them "very comfortable with and fluent in the use of technology." Both researchers were born in English-speaking countries and have taught English as a foreign language in Japan for many years, have taught students ranging

from toddlers to the elderly, and have worked in a wide range of institution types and sizes. Both researchers are currently teaching 'Gen-Z' students who were born into a world where technology is considered ubiquitous (Al-Azawei & Alowayr, 2020).

Initial Topics of Discussion in Earlier Research Phase

This initial dialogue reported attempts at tech integration and their relative successes and failures, and generally reoccurring issues. Though their experiences differed, they identified commonalities in their beliefs regarding causes at an institutional level and in classroom implementation. Frequently shared beliefs included:

- interest in incorporating technology into teaching practice more effectively;
- observed negative impacts of poor implementation;
- observed disconnects between desired outcomes and those seen in the classroom;
- an urgency to course correct; and
- desire to get more from technology regarding learner outcomes.

Further Topics of Discussion in the Earlier Research Phase

Through the first dialogues and resulting analysis, the researchers reflected on their core beliefs regarding continued failures of technology in the classroom and identified their needs. They were able to pinpoint commonalities in their experiences and beliefs, and categorised them thus:

- Shared experiences, regardless of differences in:
    - cohort (Junior high, high school, and university)
    - institution size and funding
    - employment status (part-time or full-time)
- Recognised benefits and drawbacks:
    - 'techno-joy' and personal experience of technology enhancing education
    - acceptance of technology as not the only tool for effective teaching
    - Acknowledgement that poorly used technology can be a net negative in classrooms
- Novelty and Motivation:
    - novelty is one of many motivating factors
    - normalisation of technology in tech-savvy generations
- Gaps in skill and familiarity:
    - differing generational attitudes to technology usage
    - differing access to training and support
- Tool selection:
    - top-down goals
    - lack of input from students & part-time teachers
    - sometimes lack of input from full-time teachers
- Poor communication across implementation:
    - rollout
    - training and uptake
    - workarounds and alternatives
    - re-evaluations
- Inherent ableism:
    - self-regulation
    - attention overload

- classroom management issues
- absence of moderation

Results

Early Research Stage

Where environments were similar, the researchers' experiences broadly aligned on issues regarding learner inexperience and casualisation. In the former, redesigned syllabi were required to train and add fail-safes addressing learner inability. In the latter, both researchers noted the different experiences that accompanied employment statuses, and how that affected their teaching autonomy and ability to communicate with institutions regarding. Both observed frustrations at gaps in decision-making and the need for rapid adjustments to planned courses and the tech intended to support them. These issues were universally heightened for part-time instructors, with less autonomy and communication.

Experiences also varied across teaching contexts, with secondary education seeing more unilateral decision-making of digital tools. While classroom autonomy was still noted, requirements for uniformity in testing, medium-of-assignment and -communication limited teachers' choices. While both tertiary and secondary education experienced some issues with recent widespread availability of learner desktop-base devices, secondary education saw these issues amplified in part due to hurried adoption and consequent oversights in moderation.

Later Research Stage

In later dialogues, a clear theme emerged regarding CALL as being largely absent in much of their training and subsequent practice. This added to reported feelings of being self-taught and a need for improvisation. This resulted in a repeated desire for a user-friendly and widely available framework for tech integration informed by research into learner, teacher, and institutional experiences. The model of utility (Figure 1) emerged from these discussions. This emergent need is the organising principle for the Tripping Over Cables project moving forward.

Discussion

Several disconnects between institutional- and educator-driven desires for tech adoption and effective implementation were identified through these discussions. These had an observable negative impact, creating friction between educators and institutions, between learners and educators, or between teacher desires and results. The lack of framework by which tech usage could be justified emerged as the connective tissue between various forms of breakdown. The most commonly recurring themes are explored below.

Novelty and Normalisation

Technology in the classroom was often presented to the researchers as intrinsically motivating to learners. However, both researchers found this rarely true, with novelty felt in older generations rather than 'Gen-Z' learners. Novelty, as per Dornyei (2001), is one motivating feature in the language classroom amongst many others which could be enhanced using technology but can also be countered by issues such as malfunction, unequal access, or

resultant inflexible lesson plans. Digital-native students were found to experience tech "normalis[ation]," described by Bax (2003, p. 23) as "...the point at which technology is no longer seen as novel and is incorporated into language learning processes without comment." In the researchers' experiences, technology is not novel nor intrinsically motivating to learners with technology long embedded in their lives. Bieri and Elliot (2017, p. 54) note that students "report less interest in using [digital tools] for language learning" and this may be because "they would like to keep social tools for themselves, and may resent an encroachment upon technology they see as personal." As Millennials, the researchers' tech was introduced as workplace tools, word-and-data-processing, and email-based formal communication which was novel for them and their teachers. From their observations, this led to false assumptions about current learner motivators.

Communication Breakdowns Between Learner, Teacher, and Institution

This generational gap was also observed in learners' knowledge base - as the Millennial generation's education had been predominantly text-based, they had both assumed and witnessed an overestimation of these skills in learners. Yet at all levels, unfamiliarity with desktop operating systems, file attachment, and platform account management such as password resetting were all assumed skills that were discovered to be insufficient - acutely in Japan, where learner computer literacy has been consistently low (Murray & Blyth, 2011; Weniger, 2022). Presumption of literacy led to unsubmitted work, missed communications, and frustration for all. This necessitated reallocating course time to ensure learners acquired the skills necessary to fully participate.

Outside classrooms, both researchers witnessed communication breakdowns between institutions and instructors. Those who decided on new technology introductions were not classroom-based and usability issues were common. Coupled with insufficient training, this led to reduced uptake of new tools. Toyama (2015) observed similar issues, noting that:

> … Large-scale roll-outs of educational technology rarely result in positive outcomes. In any representative set of schools, some [students] are doing well and others poorly. Introducing computers may result in benefit for some (the ones highlighted in pilot studies), but it distracts the weaker schools from their core mission. … An even bigger problem is that administrators rarely allocate enough resources to adapt curricula or train teachers. Where teachers don't know how to incorporate digital tools appropriately, there is little capacity for the technology to amplify [students' education]. (paras.7-8)

One resource particularly lacking in Japan was time, as "Japanese teachers work 53.9 hours per week… the longest average work week [in the] OECD…", and confidence in new approaches is low (Katsuno, 2019, p.87) and unsurprisingly, low confidence in new tech was observed in the researchers' colleagues.

Casualisation worsened these challenges, reflecting Beaton & Gilbert's (2012, para. 1) description of working in a university as potentially being isolating, "exacerbated if someone is a part-timer in multiple institutions" and could lead to "feel[ing] excluded from… meetings or social events because these fall outside their contracted time. They may also lack access to the university's resources." Full-time employees were observed to have greater insight into departmental decision-making processes and could provide feedback - both rarely offered to part-time teachers. As "universities [in Europe, Australasia and Canada] are increasingly

relying on contract academics for 'near-voluntary' part-time work" (CUAT, 2015, para. 1), the researchers believe this necessitates a framework teachers can consult in their practice, regardless of status and context.

Unequal Access

Downie et al. (2021, p. 2) see teachers and learners describe technology in the classroom as "modern and expected in higher education, while being equalising" and while both researchers observed as much in highly-motivated and mature-aged learners, pre-existing issues were often exacerbated for others. Toyama (2015, para. 6) describes this as the "'Law of Amplification': Technology's primary effect is to amplify human forces, so in education, technologies amplify whatever pedagogical capacity is already there." The researchers found that solely tech-medium instruction had the potential to create more inequality than it solved. Müller et al., (2009) support this, saying "the more digital technology pervades society, the more it becomes attached to existing patterns of social inequalities" (p.73) and, in the classroom, "the introduction of technology into schools serves to amplify existing forms of inequality" (p.77).

Attentional issues exemplify this inequality. Young learners were able to navigate technology independently but not self-regulate and stay on task. Both teachers had planned lessons where students independently research and complete tasks, necessitating giving learners unfettered internet access. While this allowed some learners to thrive and extend their learning, it created a great disadvantage for those demotivated or otherwise struggling to concentrate. The self-regulation required to ignore the entertainment options, especially for higher-secondary learners, was an unreasonable demand. Similar issues were seen economically, with high-income-background learners more familiar with studying digitally, able to access modifications and personalisation, and replace broken devices. Lower-income learners were observed to have been demoralised by higher training requirements and excluded by device loss.

Conclusion

These discussions had one motif: why technology was being used? In the majority of cases discussed, lack of clarity between parties regarding why institutions and educators chose particular tools had contributed to the issue. Thus, the researchers desired greater dialogue and institutional transparency in the acquisition, implementation, and activation stages, and a reflective phase for teachers in planning technology use, feeling that an established framework for practice would be invaluable in mitigating or preventing harm. Institutionally, this could enable clear insight into goals and awareness of different approaches to tech-assisted teaching for all staff and allow teacher tech usage to target learning outcomes effectively.

Thus, the researchers found that three key factors combined to form utility: accessibility, relevancy, and regulation. Taken equally, tech was likely to contribute positively. Out of balance, easily identifiable breakdowns were seen to frequently occur.

- Relevancy combined with access but without regulation created distractions, e.g. YouTube as entertainment vs. research
- Lack of relevance demotivated, as learners were uninterested or hostile to the tech usage, e.g. English-class social media activities

- Relevancy combined with regulation produced focused activities that supported learners but limited access to tech became a demotivating factor, e.g. lack of sockets making devices unusable

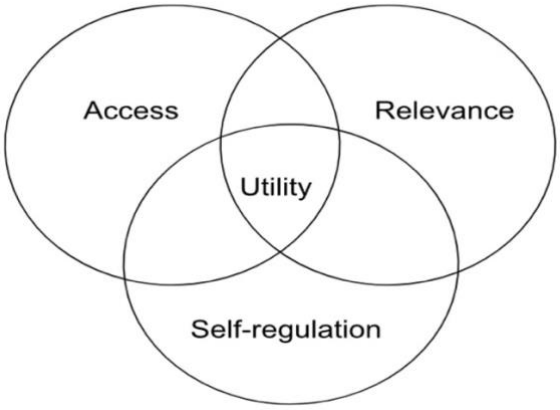

Figure 1: The Access, Relevance, Self-regulation and Utility Venn Diagram

The researchers agreed on the need to analyse issues technology may introduce and have pathways to communicate with decision-makers addressing whether to use a tech-based approach including:

- Training
  - Can both I and my students use this tool with confidence and minimal disruption?
  - If not, is sufficient time and ability to train my students available?
  - What is the time investment for creating digital materials/tasks?
- Purpose
  - What are the benefits?
  - Why is it superior to a no- or low-tech option?
  - Is this view supported in literature/research?
- Drawbacks
  - Is anything necessary being removed by introducing technology?
  - Is a barrier being created between teacher/learner and learner/learner?
  - Is rigidity being introduced e.g.
    - Is the lesson less flexible?
    - Are students being given fewer options?
- Access
  - Is it universally accessible? Consider:
    - Physical limitations
    - Financial inequality
    - Language barriers
    - Emotional/Attentional challenges
  - Is it user-friendly?
  - Is it sustainable i.e. will data be lost?
  - Is regulation in place/possible?

Expanding these ideas, informed by wider sets of experiences and perspectives, and deeper familiarity with CALL research is the intention of the researchers going forward. The ultimate goal is the development of user-friendly frameworks that can be made readily available, ensuring that the technology they are excited about can be used positively, widely,

and diversely. By centering experiences in the framework they hope that, as per Richards & Renandya (2002, p. 361) “it is the teacher, not the technology, who determines the quality of the learning that takes place in the classroom.”

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Teaching Reading for Japanese EFL Undergraduate Students via Zoom

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Abstract
This paper documents how one teacher taught a reading course online using zoom during COVID-19 for nine second- and third- year EFL undergraduate students in Japan in three phases: (1) getting to know the students, (2) staying attuned to the students' wants and needs, and (3) getting students to become autonomous learners. Challenges as a result of COVID-19 and a move from classroom teaching to online teaching included difficulties in having students borrow and purchase books and having students conduct extensive reading throughout the course. Implications for teachers teaching reading in EFL contexts not limited to Japan are also provided.

Keywords: Reading, Online Instruction, Japanese University Students

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Introduction

English as a Foreign Language (EFL) teachers in Japan unexpectedly needed to teach remotely due to the emergence of COVID-19, for the spring 2020 semester. The state of emergency was declared in seven of the 47 prefectures on April 7th, 2020, and the declaration extended to all prefectures on April 13th (Kodera, Rashed, & Hirata, 2020), necessitating university faculty members to teach remotely, with numerous tertiary institutions relying on zoom, an online platform that allow for video and audio conferencing (zoom, 2023). A course on Reading for undergraduate students learning EFL also had to be taught remotely with sessions reduced from 15 to 13 and without student-access to libraries during the beginning of the semester. The purpose of this paper is to document the lived experiences of how a university faculty member taught a course on Reading during the semester of COVID-19 to shed light on how teachers teaching EFL can effectively teach reading online in the future post COVID-19. Review of what is known about effective teaching of reading skills for EFL students will be presented, followed by how one teacher taught a course on Reading and its alignment with the existing literature. Finally, implications for faculty members teaching EFL at the undergraduate level will be discussed.

Literature on Effective Teaching of Reading Skills for EFL Students

Four key points are worth noting for teaching reading effectively based on a recent review of peer-reviewed journals. First, teaching reading strategies in the EFL context can lead to improvements in reading proficiency (Shih, Chern, & Reynolds, 2018). Second, learners can benefit from timed reading and repeated oral reading practice (Chang, 2012; Shimono, 2018). Third, extensive reading can improve students' motivation and self-confidence and foster positive images as EFL learners (Yilmaz, Atay, & Mustafa, 2020), with benefits including improvements in building reading fluency, vocabulary, grammatical knowledge, and writing ability (Ng, Renandya, & Chong, 2019; Wang & Ho, 2019). Fourth, both extensive reading and intensive reading can improve EFL learners' levels of reading comprehension (Bahmani & Mohammad, 2017). It is also important to note that when a teacher is creative, a course focusing on one skill can involve multiple skills (Oxford, 2001).

Online Approach to Teaching a Course on Reading

The writer's approach to teaching reading did cover four key points identified in the literature: (1) the teaching of reading strategies, (2) timed reading and repeated oral reading practice, (3) extensive reading, and (4) intensive reading within the three phases of 13 online sessions. The phases described hereafter are as follows: first, getting to know the students; second, staying attuned to the students' needs and wants; and finally getting students to become autonomous readers. How the four key points identified in the literature intertwines with the three phases will be described hereafter.

Phase 1: Getting to Know the Students

The first phase which comprises of approximately four sessions involved getting to know the students, specifically in terms of their experiences with reading, introducing students to timed reading, extensive reading, and intensive reading. While reading courses since Spring 2016 when the writer started teaching the course often involved repeated reading of extensive reading material in the classroom setting (Nation, 2012), it was difficult to naturally have students practice repeated reading during the first phase, not only as a way for students to

develop their reading skills (Chang, 2012; Shimono, 2018) but also as a rapport building activity. Intensive reading that the author read recently were shared with the students: one on the mental health consequences of COVID-19 for people living in Japan (Shigemura, Ursano, Morganstein, Kurosawa, & Benedek, 2019), and the other related to a petition for delayed fall semester over an online semester for a university abroad (Fu & Kim, 2020). These articles were provided as a way for students to get to know what the teacher is reading and what the students will be able to read in their future without using their dictionary if they continued with reading. Furthermore, research on EFL learners' foreign language reading motivation and reading comprehension over a three-month period indicates that not only did the $i + 1$ group perform significantly better on the post-test on reading comprehension but also managed to increase their motivation towards reading (Niazifar & Shakibaei, 2019).

However, after hearing that many of the students had not experienced reading many books in L1 or L2 and after understanding their levels of reading comprehension for those two articles (Fu & Kim, 2020; Shigemura et al., 2019), the decision was made to allow students to select what they read instead of choosing difficult texts for them. Namaziandost, Nasri, and Ziafar (2019) recommended that teachers consider the value of self-selected materials as a key to successful implementation of extensive reading. Jennifer and Ponniah (2019) found that students who experienced high anxiety experienced negative emotions including confusion, boredom, and stress, preventing them from accessing appropriate information and linguistic constructs from memory. Six out of nine students who participated in the course on reading have taken another course with the author before, and the author perceived it important to: have students continue to experience positive emotions that will provide continual exposure in English, show them what they will be capable of if they continue on with their studies, and promote an environment that allow them to experience the joy of reading self-selected materials and broaden their horizons while developing their linguistic competence in the target language as well.

Phase 2: Staying Attuned to the Students' Needs and Wants

The second phase includes two key points as a result of staying attuned to the students' needs and wants and capabilities that online zoom instruction provided: (1) having students read for meaning by summarizing and noting interesting points from their selected articles, (2) having students share what they read independently outside of class. The readings were summarized because as Park (2017) argues, reading speed is not meaningful when comprehension is neglected. The students could share in their L1, and when the students chose to share in their L2, the author interpreted key points in L1 as deemed necessary for comprehension. In support of this decision, Turnbull and Evans (2017) explored the effects of post-reading group discussions in both first and second languages on L2 comprehension and found that participants who discussed the texts in their L1 not only recalled the most textual elements and features across texts but also produced recalls in writing with the most words and discussed the broadest range of topics. Students who chose to do so shared in their L2 so they not only learn to understand written material in L2 but communicate what they read in their L2. Additionally, students chose what they were interested in and did not read the same materials in groups to help each other get exposure to reading various kinds of reading materials.

Although both timed reading and repeated oral reading is effective in promoting second language reading fluency (Shimono, 2018), *Reading for Speed and Fluency* (Nation, 2012) was made optional, because of COVID-19, and online versions of the initially required text

was unavailable. This decision is aligned with Ansarin, Farrokhi, and Mahboudi's (2017) claim that the usefulness of any method used in foreign language teaching is ultimately dependent on whether it is accepted by learners. One student who is taking the course for the third time and has continued with the series every semester has decided to complete the third level in the series (Nation, 2018) at his own will.

Phase 3: Getting Students to Become Autonomous Readers

The third phase entailed encouraging students to dig deeply into the topics that they are interested in to promote continued reading even after the end of the course. Chang and Millett's (2017) three-week study of EFL learners show that narrow reading, or a continuous reading of related texts, can help readers read significantly faster and comprehend more with the related text than the unrelated text. It was reasonable that if the students do decide to continue with reading after the end of the course, they will do so with the topics that they are interested in. During Phase 2, students selected and presented articles that they were interested in each week, and while their interest varied, many students' choices showed their individuality. For instance, one student was inclined to read extensively on the environment, whereas another student was inclined to read about international politics. During the final session, the students were asked to develop their own research question, identify two articles to help them answer their questions and write out their answers several days prior to presenting their answers in L1 or L2 within five minutes. The author made positive comments focusing on the value each student's presentation had on the learning experiences of other students. Finally, suggestions for the reading students could do after the end of the semester was made, including continuing with habitual reading of articles they are interested in, keeping a record of what they read, sharing with others, graded readers, and timed reading (Nation, 2012).

Implications: For Teachers Teaching EFL and for Undergraduate Students Learning EFL

The social circumstances such as COVID-19, classroom dynamics and the history of relationships with students, what is comfortable for each teacher can influence how teachers teach. With zoom instruction under COVID-19, challenges were observed for activities such as repeated reading practice and extensive reading in the author's course. With online teaching of reading for EFL students in the future, teachers in other EFL contexts can plan, but remain flexible as to how they will teach by (1) getting to know the students, (2) staying attuned to the students' needs, and (3) keeping in mind how teachers can best encourage students to be autonomous readers. Yilmaz, Atay, and Musftafa (2020) recommend that teachers help students create strong language learner self-images, because their self-concept significantly affect their attitudes, behaviors, and cognitive processes towards reading. Each teacher has the challenge of reflecting on his or her teaching and remain flexible and adaptable in terms of how to teach while keeping in mind how they can best help students with their reading. Two points of unwavering focus to suggest are: building a strong self-concept of reading and helping students to become closer to being autonomous readers.

Conclusion

Three phases for teaching a semester of a reading course for undergraduate students in Japan learning EFL during COVID-19 were outlined following implications on how teachers in other teaching contexts can adapt their teaching. The three phases entailed: getting to know

the students, staying attuned to the students' wants and needs, and getting students to become autonomous learners. Challenges due to COVID-19 and a sudden move from classroom teaching to online teaching was the difficulty in having students order and use textbooks, suggesting that it would be auspicious for teachers to have confidence in developing their own unwavering vision for teaching reading, which may include helping students build a strong self-concept of reading and helping students to become as autonomous a reader in the target language as possible considering a variety of social factors including teachers and students present in class. Arab and Benaissi (2019) found that students' poor reading habits were particularly because of the negative role of parents and the absence of effective reading programs, suggesting the value of teachers to also understand the EFL curriculum of the educational institution the teachers are at, and how students read outside of school.

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Developing Academic Oral Presentation Skills Through a VR-Assisted Course

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WorldCALL 2023 – CALL in Critical Times
Conference Proceedings

Abstract
The burgeoning popularity of immersive technologies seems to foretell the mainstreaming of such technologies in educational settings in the not-so-distant future; thus, it seems wise to gain a better understanding of their potential for language learning. Juxtaposing the capabilities of virtual reality (VR) with the pedagogical guidelines and practices of English for Academic Purposes (EAP), this study investigates the effectiveness of an interactive VR-assisted course on the development of academic oral presentation skills and the enhancement of self-efficacy beliefs regarding presenting in English in the Iranian academic context. To this aim, a mixed-methods study was conducted, and 3 Iranian university lecturers and 6 post-graduate students participated in a 6-session academic oral presentation course in which the participants accessed *Alzahra VR Academy (1.0)*, a self-designed virtually simulated academic platform, to practice academic oral presentation. In the quantitative phase, a comparison of the participants' pre-test and post-test scores revealed that the course had a positive effect on the participants' academic oral presentation performance. In the qualitative phase, semi-structured interviews on the learners' self-efficacy beliefs regarding presenting were conducted before and after the course; moreover, their weekly reflection notes on the course were gathered. The analyzed bodies of data indicated that the interactive virtual learning environment of the course had made contributions to the improvements in their academic oral presentation skills, and achieving higher levels of self-efficacy regarding presenting after the course. The findings have implications for educational policy makers, administrators, curriculum developers, EAP teacher educators and EAP practitioners in the ELT context.

Keywords: Virtual Reality, Academic Oral Presentation, Self-Efficacy Regarding Presenting

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Introduction

Recognized as one of the major components of the internationalization of universities (Ardakani et al., 2011; Nakhoda et al., 2021), oral presentation competence is gaining in importance and attention (Adams, 2004; Tucker & McCarthy, 2001; van Ginkel, 2015; Yudintseva, 2023). Simultaneously, the educational affordances of virtual reality have inspired researchers and educators to investigate the incorporation of VR in language teaching and learning (Boetje & van Ginkel, 2021; Radianti et al., 2020). This has led to studies examining various aspects of the employment of VR for oral presentation, such as fostering academic oral presentation competence (e.g., Castillo, 2016; Huang et al., 2020), lessening anxiety (e.g., Gruber & Kaplan-Rakowski, 2020), providing feedback (e.g., van Ginkel et al., 2020; van Ginkel & Sichterman, 2023), etc. Nevertheless, it seems that self-efficacy regarding presenting, as an affective factor associated with oral competence, is less explored in VR-assisted language courses. This mixed-methods study attempted to investigate the impact of integrating VR in an academic oral presentation course, utilizing the *Alzahra VR Academy (1.0)* software. In addition, it explores how the integration of VR in the course can affect learners' self-efficacy beliefs regarding presenting.

Participants and Context

This study was conducted at Alzahra University (a single-sex school for women) in Tehran, Iran. Since the preliminary condition for attending this course was having a minimum English proficiency level of B2 (according to the Common European Framework of Reference indicators), 21 volunteers, either university lecturers or post-graduate students, were interviewed using the rubrics for the speaking module of IELTS. Ultimately, 3 Iranian university lecturers and 6 post-graduate students (9 females, age range 26-48 years old, M = 35.2, SD = 7.27) were recruited. It is worth noting that pseudonyms are used in order to protect the participants' anonymity.

Instruments

Alzahra VR Academy (1.0)

Alzahra VR Academy (1.0) is a virtually simulated interactive academic environment which was developed in accordance with pedagogical considerations for language learning in 2022. The simulation of a conference hall is the situation which was used in the current study. As shown in Figure 1, the learner can find herself as a presenter on the conference stage accessing her PowerPoint slides as soon as she wears an *Oculus Quest 2.0* headset. This learning environment enables the presenter to interact with other classmates and her instructor, who are in the simulated conference hall as dynamic avatars.

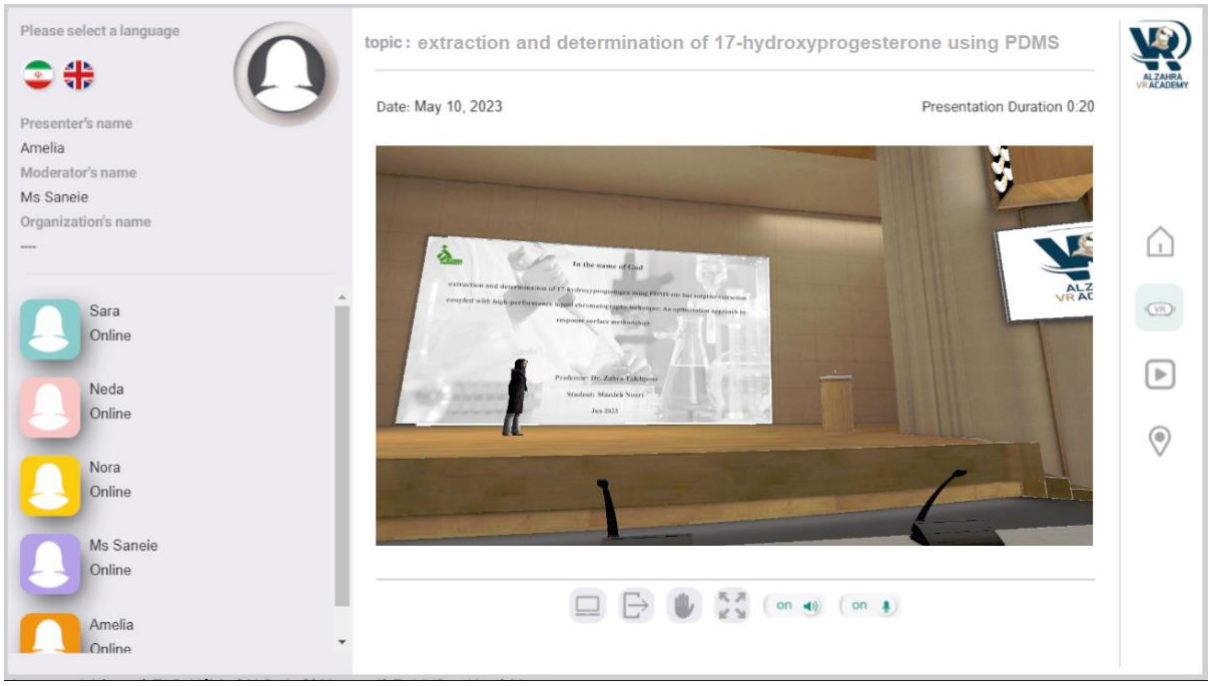

Figure 1: A screenshot of Alzahra VR Academy (1.0)

Pre-course Interviews

In order to have a vivid picture of learners' evaluations of their own self-efficacy beliefs regarding presenting, they were interviewed based on semi-structured protocols before the course.

Participants' Reflection Notes

The participants were asked to report their reflections on the virtual learning environment, their own progress, and course content each session as a part of their assignments.

Post-course Interviews

In order to explore any possible changes in the learners' evaluations of their self-efficacy beliefs, they were interviewed again, one month after the course.

Classroom Observation

One of the instruments for collecting qualitative data in the current study was classroom observation. All the sessions were audio-recorded for further use.

Oral Presentation Skills (OPS)

In order to rate the learners' presentation skills, OPS, the rubric developed by van Ginkel et al. (2017) was utilized. Content, structure, interaction, and delivery are the components of OPS (see Appendix).

Speaking Assessment Rubrics for IELTS

To ensure the homogeneity of the participants with regard to English proficiency level, the speaking assessment rubrics for IELTS was used in the placement interviews. The instructor also used the rubrics for providing linguistic feedback to the learners.

Data Collection

This project was hosted by the CALL Research Center in the Faculty of Literature of Alzahra University in 2023. Semi-structured interviews were conducted to explore the learners' self-efficacy beliefs regarding presenting before the course began. In order to prevent their unfamiliarity with the virtual reality learning environment and its equipment becoming a hindrance (Diemer et al., 2015), an introductory session was held, and they were further assured that the researcher assistants at the center would aid them in case of any problems or questions. Since the basis of the course was practicing presentation skills, the participants were required to select a journal paper in their own fields of study so that they could practice presenting it as a part of their assignment each session.

In order to evaluate the learner's presentation skills, a pre-test was first administered: Each participant delivered a presentation based on her selected paper in the first session before receiving any instructions. The post-test consisted of a presentation of the same paper in the last session, after receiving sufficient instruction and opportunities for practice.

The participants attended the VR-assisted course on a weekly basis, for six weeks. Each session lasted 90 minutes, and the beginning was allocated to providing instructions on effective presentation skills. This was followed by practice opportunities for all learners in *Alzahra VR Academy (1.0)*, where they practiced presenting parts of their papers according to the instructions. In addition to observing the mini-presentation practices, reflection notes of the learners were gathered every session. Finally, semi-structured interviews were conducted again one month after the VR-assisted course to investigate any possible changes in their self-efficacy beliefs regarding presenting.

Results and Discussions

Quantitative Phase

In order to examine the impact of the VR-assisted course on the learners' performance, descriptive statistics were firstly computed. As shown in Table 1, the learners had a better performance in the posttest (M = 97.55, SD = 9.52) compared to the pretest (M = 81.22, SD = 15.52).

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Posttest	97.55	9	9.52	3.17
	Pretest	81.22	9	15.52	5.17

Table 1: Descriptive statistics of pretest and posttest

In addition, as shown in Table 2, a paired samples t-test was carried out after ensuring the statistical assumptions were met. The results showed that there was a statistically significant difference between learners' scores in pretest and posttest, t (8) = 4.70, p =.002. As the value

of Cohen's d is equal to 1.56, the effect size of the findings can be considered high (Plonsky & Oswald, 2014); however, the width of the confidence interval indicates that the precision of the estimate is less than optimal (Larson-Hall & Plonsky, 2015).

	Paired Differences						
			95% Confidence Interval of the Difference				
	Mean	Standard Deviation	Lower	Upper	t	df	Sig. (2-tailed)
Posttest and Pretest	16.33	10.41	8.32	24.34	4.70	8	.002

Table 2: Paired samples t-test for oral presentation scores

According to these results, the course had a positive effect on fostering the learners' academic oral presentation competence; thus, it would appear that VR can contribute to developing oral competence skills and to the process of learning and teaching.

Qualitative Phase

To interpret the data gained from the participants' reflection notes, as well as the transcripts for the recorded interviews and classroom observations, these were thematically analyzed by the second author (Creswell & Poth, 2016) through the three stages of open, axial and selective coding scheme (Ary et al., 2006). Ultimately, two main themes emerged with reference to self-efficacy beliefs regarding presenting: *presenting style* and *presentation content.*

Presenting Style

As one of the course objectives, an attempt was made to draw the attention of participants to various aspects of presentation manner, such as maintaining appropriate posture, paying attention to body language, and maintaining eye contact with the audience. Tina, one of the university lecturers, commented:

> I would sometimes turn my back to the audience unconsciously, and just read my slides aloud while I was presenting; however, practicing in the VR learning environment of this course, coupled with the instructions I had received about presentation strategies, made me more mindful of my posture while giving a lecture.

Mona, who had considered the course to be beneficial for her in terms of promoting presentation skills, maintained:

> While presenting in English, I was so shy that I would either look at my notes or stare at the floor. This learning environment and the instructor's instructions made me more confident looking in the eyes of avatar audiences, and after my second speaking practice, I felt at home!

The excerpts reveal that the course helped the learners to feel more self-efficacious after training. These comments are consistent with previous research endorsing virtual reality,

since it allows for the practicing of the skills required in the settings resembling real-life situations (Gruber & Kaplan-Rakowski, 2020). As Sitzmann (2011) maintained, practicing in simulated environments can bring about higher levels of self-efficacy after training. Additionally, the findings are in line with the literature on developing presentation skills (Adams, 2004; De Grez et al., 2012).

Presentation Content

Since efficient use of audiovisual aids makes presentations more effective, a part of the course focused on the format of slides in terms of their background color, layout and design, proper font size and color, etc. In the practice opportunities, the interactions between the presenter, instructor and classmates in the virtually stimulated learning environment enabled each student to be informed on the strengths and weaknesses of her presentation slides. In her reflection notes, Elina stated:

> It was through interacting with the dynamic avatars that I learned to make my presentation more comprehensible with the use of proper keywords in bullet points while applying consistent slide format to my presentation.

Mona also noted in her post-course interview:

> The practice opportunities in the immersive VR environment of the course helped me to go through my slides while presenting on a stage resembling a real conference hall… While practicing, I realized some font sizes, tables and figures were not readable for my classmates who were the dynamic avatars in the virtually simulated conference.

Reflecting on her achievements throughout the course, Sara stated:

> I thought the choice of vibrant colors with lots of animations would make my presentations more interesting, but it was through the interaction with my instructor and other avatars in my presentation practices that I realized that such colors and animations were distracting and not always suitable for academic presentations.

These comments confirm that VR learning environments can bring about meaningful contextualized learning (Yang et al., 2020) and prepare learners to perform real-life tasks. The findings also complement studies on academic oral competence (Boetje & van Ginkel, 2021; van Ginkel et al., 2019).

Conclusions

Aligned with research trends in VRALL examining different aspects of fostering academic oral competence through the affordances of virtual reality (Parmaxi, 2023; Yudintseva, 2023), this research aimed at investigating the impact of a VR-assisted course for developing academic presentation skills and exploring the learners' self-efficacy beliefs regarding presenting. The findings of this study indicated that the VR-assisted course had a positive effect on the learners' performance; they also suggested that the application of virtual reality in a course for developing academic oral presentation skills can promote learners' self-efficacy beliefs regarding presenting. At the same time, it is worth noting that the sample size of this research is small, and the data was restricted to a small group of Iranian university

lecturers and post-graduate students at Alzahra University; therefore, the findings cannot be safely generalized to a broader context. Hopefully, further research with larger sample sizes can consolidate the results of this study by increasing the reliability of the estimate.

Appendix

Rubrics for Oral Presentation Skills

Student: ---------- Trainer: ---------- Date: ----------

	++(10)	+(8)	+/- (6)	-(4)	-(2)	P1	P2
Personal learning goals	The presenter has formulated two specific language goals and is able to articulate his/her plan of action in detail.	The presenter has formulated one specific learning goal.	The presenter has only partially formulated his/her learning goal according to the set of criteria.	The presenter has stated a learning goal, but she/he did not use the set of criteria at all.	The presenter did not think of any learning goal in advance.		
	The presenter has included his/her two learning goals in the presentation by actively adopting the plan of action.	The presenter has included one learning goal and its related plan of action in the presentation.	The presenter has only partially one learning goal in the presentation.	The presenter has been barely aware of his/her learning goal during the presentation.	The presenter has been unaware of his/her learning goal during the presentation.		

	++(10)	+(8)	+/- (6)	-(4)	-(2)	P1	P2
Keeping the attention	The presenter has been able to keep eye the attention of the audience completely.	The presenter has been able to keep eye the attention of the audience for most of the time.	The presenter has been able to keep eye the attention of the audience on a regular basis.	The presenter has been able to keep eye the attention of the audience occasionally.	The presenter has been unable to attract the attention of the audience.		
Non-verbal communication	The presenter has been able to maintain eye contact with the audience continuously.	The presenter has been able to maintain eye contact with the audience for most of the time.	The presenter has been able to maintain eye contact with the audience on a regular basis and only sometimes he/she had to look at his/her notes.	The presenter has been able to maintain eye contact with the audience occasionally, because he/she often had to look at his/her notes.	The presenter mainly had to look at his/her notes.		
	The presenter has been able to maintain an open posture continuously with illustrative gestures.	The presenter has been able to maintain an open posture for most of the time with supporting gestures.	The presenter has been able to maintain an open posture on a regular basis both with supporting and non-supporting gestures.	The presenter has been able to maintain an open posture occasionally with mainly non-supporting gestures.	The presenter mainly had an unstable or closed posture with non-supporting gestures.		
	The presenter has been able to present in an authentic way and use his/her voice as in an animated conversation (for example regarding its pace, volume, articulation)	The presenter has been able to deploy all techniques considering use of voice in a conscious manner (for example regarding its pace, volume, articulation)	The presenter has been able to deploy one or a few techniques considering use of voice, but he/she still needs to focus on one of these aspects: -pace -volume -Articulation (e.g. mumbling) -Monotony -Filler/ Stopgap	The presenter has been able to speak in an understandable way, but he/she needs to actively work on one of these aspects: -pace -volume -Articulation (e.g. mumbling) -Monotony -Filler/ Stopgap	The presenter has not been understandable because of one of these aspects: -pace -volume -Articulation (e.g. mumbling) -Monotony -Filler/ Stopgap		
Audience awareness	The presenter has been able to react on both verbal and non-verbal signals send by the audience and she/he has been able to adjust the way of presenting accordingly.	The presenter has been able to react on both verbal and non-verbal signals send by the audience for most of the time.	The presenter has been able to react on both verbal and non-verbal signals send by the audience on a regular basis, but he/ she sticks to the prepared story.	The presenter has occasionally been aware of the audience, but he/she has been able to answer questions.	The presenter has not been aware of the audience.		
Structure	The presenter has been able to clarify the presentation's goal and he/she selected a corresponding structure.	The presenter has been able to structure the presentation and he/she has been able to connect the different parts in a fluent manner.	The presenter has been able to structure the presentation by listing the various parts.	The presenter has been able to structure the presentation by listing the various parts, but does this without any cohesion.	The presenter has been unable to structure the presentation or he/she has been unable to emphasize its selected structure.		
	All INTROS elements are fully and creatively incorporated in the introduction and the closing part of presentation matches with the introduction.	All INTROS elements are listed in the introduction and the closing part corresponds to this.	The introduction contains several parts of INTROS elements except for Time and Response and the closing part corresponds more or less to the start of the presentation.	The introduction lacks crucial parts of INTROS like Interest and Need, and the presenter concludes with a sentence similar to "That was my presentation"	The presentation lacks all of the INTROS elements of the introduction, and the closing part is absent as well.		
Content	The presenter has been able to internalize the subject of presentation completely and he/she has been able to connect the relevant parts in a creative way.	The presenter has been able to internalize the subject of presentation thoroughly and he/she has been able to connect the relevant parts.	The presenter has been able to internalize the subject of presentation sufficiently and he/she has been able to connect several parts in an understandable way.	The presenter has been able to internalize the subject of presentation only partially, as a consequence he/she has been able to connect the various parts.	The presenter has been unable to internalize the subject of presentation and he/she has been able to connect the various parts.		
	The subject of presentation connects perfectly with the prior knowledge of the audience and the presenter has been able to increase the knowledge level of the listeners.	The subject of presentation connects adequately with the prior knowledge of the audience.	The subject of presentation connects sufficiently with the prior knowledge of the audience.	The subject of presentation connects only partially with the prior knowledge of the audience.	The subject of presentation does not correspond with the prior knowledge of the audience.		
Use of media	The slides of the presentation are visually attractive, readable and supportive to the content.	The slides of the presentation are readable and supportive to the content.	The slides of the presentation are readable, contain the necessary information and are more or less supportive.	The slides of the presentation are readable, include only fragments of the necessary information and are barely supportive.	The slides of the presentation are hardly readable and contain insufficient, incorrect or unnecessary information.		
	The presenter has been able to present by heart.	The presenter has been able to present by heart, but he/she glances at the slides during a detailed explanation.	The presenter has been able to present, but he/she still needs the slides in order to structure the presentation.	The presenter has been able to present, but the slides guide him/her through the presentation and/or surprise him/her every now and then.	The presenter has been unable to present without slides.		
Average grade:							

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Quis Custodiet Ipsos Custodes? E-learning Hegemonies and Educational Justice

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Conference Proceedings

Abstract
Although the pandemic has brought about a global interest in online education, the prevalence of e-learning hegemonies still hinders educational justice in many settings. This paper explores and exemplifies the six hegemonies of e-learning (i.e., linguistic, technological, economic, educational, sociocultural, and sociopolitical), as demonstrated in the Computer Assisted Language Learning (CALL) community, and attempts to demonstrate how these hegemonies are detrimental to educational justice. The inter-relation among the different forms of e-learning hegemonies is highlighted, demonstrating that attempting to eradicate one form of hegemonies without addressing the others may not always succeed. The decisive role that context has in determining how the hegemonies play out will also be discussed, such as the pivotal role of sociopolitical hegemonies in the fairly unique context of Iran. Finally, I argue that increasing awareness of such contextual differences is vital; otherwise, self-appointed custodians of educational justice might occasionally exacerbate the situation through setting an accepted tone for the dialog, thus suffocating competing narratives.

Keywords: E-learning Hegemonies, CALL Hegemonies, Educational Justice, Digital Colonialism

WorldCALL Conference 2023 in Chiang Mai, Thailand

Introduction

Educational injustice in e-learning situations is an under-researched topic, and such research as exists is often centered around issues such as the "digital divide" and unequal access brought about through economic and financial distress, or the paucity of technological savoir-faire. Admittedly, in recent years there has been an increased interest in the different aspects of what is often called *digital (neo)colonialism* (e.g., Adam, 2019; Kwet, 2019; Zembylas, 2023); however, the dialog is far from mainstream, and this absence is particularly evident in the context of computer assisted language learning (CALL). A simple online search on the hegemonies of CALL will reveal a mere handful of studies, mostly appearing in a special issue for the *Language Learning and Technology* journal published over a decade ago (Lamy & Pegrum, 2012). Among the hegemonies, sociopolitical injustices, above all, have been extremely neglected thus far. Perhaps one reason for this has to do with the sensitivity of political issues in general, and the desire to avoid tension and conflicts in the field of language teaching, one that has long boasted of boosting "multiculturalism" and "intercultural competence" (e.g., Zheng & Gao, 2019). Another reason could be the fear of being cancelled or destroying one's future in a world where even peaceful political protests can often have grave repercussions in the academia (Egan, 2023; Hartocollis, 2023). And of course, the gatekeepers of e-learning and CALL often hail from privileged academia (Marandi, 2019); many of them are happily unaware of the existence of such hegemonies, and others are influential in reinforcing them (Marandi, 2019), if even unwittingly or unwillingly. Be that as it may, sociopolitical hegemonies often have the worst impact; this certainly appears to have been the case for Iranian academia, as demonstrated in Marandi (2023). Furthermore, CALL hegemonies are frequently intertwined and reinforce one another; thus, it is important to address them in tandem. It is also important to recognize that different contexts can lead to different hegemonies, and the warriors of online educational justice who fail to acknowledge this may actually intensify and aggravate the situation.

E-learning and CALL Hegemonies

The hegemonies of e-learning (and by extension, CALL) are operative when one of the e-learning constituents restricts the opportunities and affordances available to the stakeholders, or impacts them disproportionately. These have been classified into six types: linguistic, technological, economic, educational, sociocultural, and sociopolitical (Marandi, 2017; Marandi, 2023; Marandi, Karimi Alavijeh, and Nami, 2015).

Linguistic hegemonies mostly involve the dominance or imposition of a language or writing system, like English, in online and e-learning environments. The fact that English dominates most relevant platforms, articles, books, websites, apps, conferences, and teaching materials necessarily harms other languages (Pennycook, 1998), devalues those with different orthographies, and moreover leads to a vicious circle of reinforcing this same hegemony. Looked at from a different perspective, linguistic hegemonies can also be implemented in a more subtle manner, through the very texts used to enlighten new generations of educators. The inundation of popular textbooks with ideologically loaded terms (Phillipson, 1992) presupposes and reinforces the (in)validity or import of certain convictions, often to the exclusion of dialog. These terms are usually popularized educational talking points, such as *autonomy*, *drone-on-the-throne*, *standardization*, *aptitude*, etc. (The terms are randomly chosen for illustrative purposes.) However, there are also a number of terms which are less widespread in education but which are, nonetheless, culturally charged and sensitive, and are sometimes used in educational contexts in order to drive home certain narratives; for

example, *pluralism*, *patriotism*, *nationalism*, *patriarchy*, *homophobia*, *appropriation*, *diversity*, *equality*, *equity*, *progressive*, etc. (Again, the terms are chosen at random.) Furthermore, some previously neutral, inclusive terms have also come to gradually become collocated with certain groups more than others; for example, "identity," and "minority group." Such hegemonies are further strengthened through the provision of elitist guidelines on linguistic choices for educators, such as those regularly published and updated by the American Psychological Association (APA) (e.g., 2020, chap. 5). Linguistic hegemonies can ultimately lead to a variety of other hegemonies, such as educational, sociocultural, etc.

Technological hegemonies result from technology-driven educational decisions, such as when technology features or limitations lead to a less than optimal teaching strategy. For instance, most popular contemporary English Language Teaching (ELT) educators lay great emphasis on matters such as authenticity, communication, negotiation, critical thinking, collaboration, etc.; however, these hugely prevalent concepts are often overlooked by many popular apps and programs used for language learning, such as Duolingo, Rosetta Stone, etc. Similarly, the structure and programming of the technology may often lead to neglecting individualized learner needs, or disregarding certain language skills in favor of others, such as putting more emphasis on receptive skills rather than productive skills. This could happen for a variety of reasons: The required technology might not be sufficiently developed; the more useful options of software may be reserved for premium users; or those involved in developing the hardware or software may not have had sufficient concerns or knowledge about educational issues. It is also not unusual for the changing hands of the shares or ownership of corporate tech companies to bring about major changes in the ways a technology can be used, although this can admittedly lead to positive educational changes as well, particularly when the ownership of multiple popular technologies is acquired by the same corporate entity, allowing for a synergy of technology affordances. (Whether such benefits outweigh the menaces of such largescale dominance is another issue.) Technological hegemonies can also impose imprudent budget allocations on the learner or institute, for example, prioritizing unnecessary cutting-edge technology over much-needed teacher professional development. Another example of technological hegemonies is the demanding of device accesses and permissions, and the gathering and sharing of user data. Similar to the other types of hegemonies, technological hegemonies can lead to other forms of hegemonies; for example, they may result in linguistic hegemonies if the technology doesn't support a language, or a right-to-left orthography. They can also be instrumental in paving the way for sociopolitical hegemonies; for instance, when personal data is extracted and used for sociopolitical purposes.

Economic hegemonies arise when financial constraints create a "digital divide" or hinder ideal technology adoption; for example, when the learner or organization is unable to purchase a required device, or has to settle for one with a lower quality. As Kwet (2019) points out, such situations are often exploited by the Global North to increase the dependence of less fortunate countries on "developed" countries; for instance, under the guise of charitable contributions and altruistic education supplied gratis. This, in turn, habitually leads to digital coercion (Timcke, 2017), spawning a host of other forms of e-learning hegemonies.

Educational hegemonies are the result of institutional and pedagogical norms, policies, and practices shaping e-learning; for example, the influence of policymakers and educators on the development or usage of technology for pedagogical purposes. It is only to be expected that the dominance of certain educational theories in a society will influence the ways technologies are used for education; similarly, the beliefs and policies of the CEO of a

language institute will necessarily have an impact on the adoption of educational technologies. Even the choice of a textbook or other learning materials may influence not only the choice of technologies, but how they are employed.

Sociocultural hegemonies involve the imposition of certain cultures or beliefs in online environments. A more blatant example is the domination of Western norms in online environments, which can often lead to some people or groups being overlooked, silenced, censored, or even cancelled. An example of sociocultural hegemonies can be seen on the Second Life virtual platform, a self-proclaimed "inclusive haven of self-expression" (see Figure 1), where a Muslim woman like myself is given 90 different free hair color and style choices for her avatar, not one of which includes hijab (Figure 2), despite the fact that nearly one-fourth of the world population are Muslims.

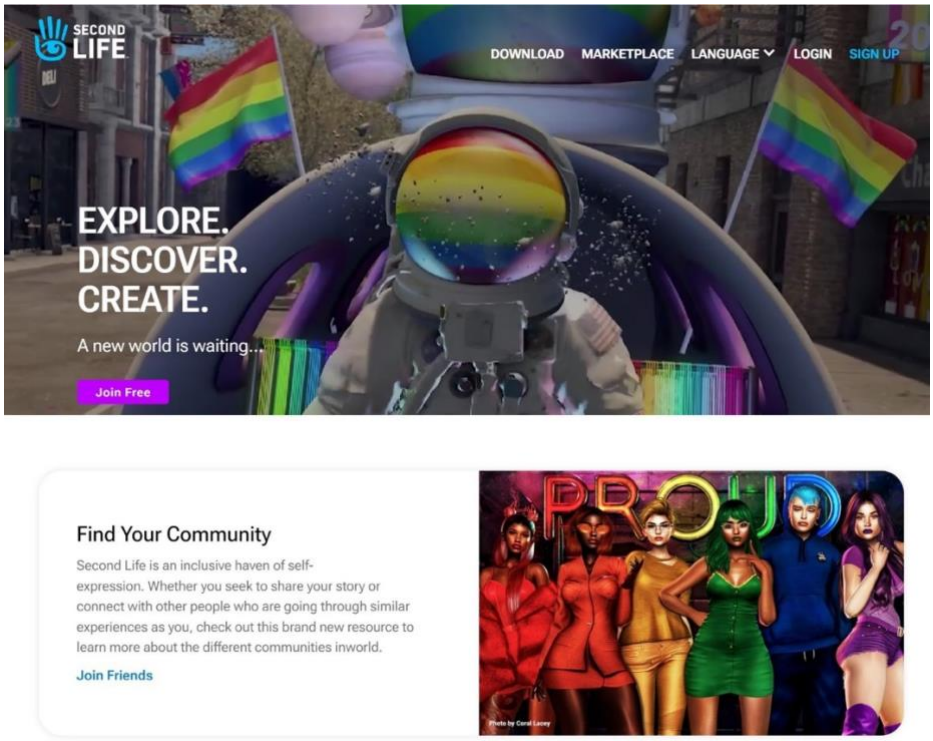

Figure 1: Second Life homepage.

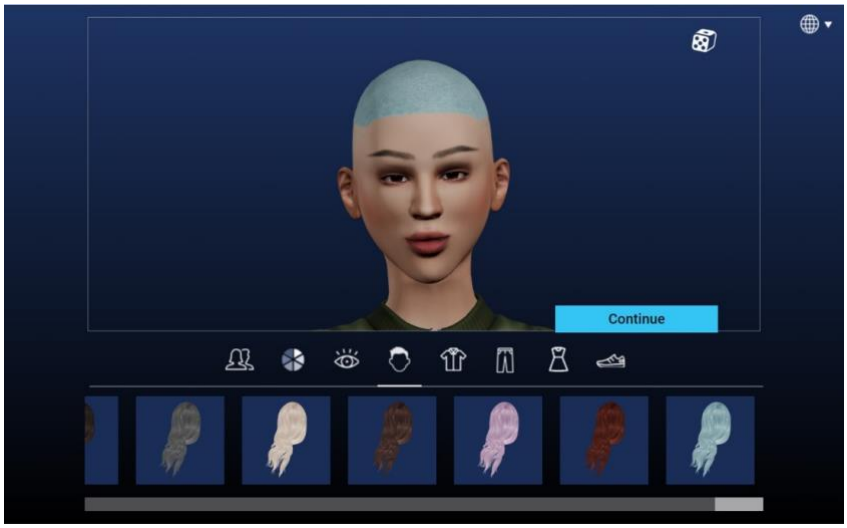

Figure 2: Sample hair choices for a Second Life avatar.

A less obvious instance of sociocultural hegemonies is when a person is forced to install/use a particular app/platform due to peer pressure, although it is worth noting that such pressure can itself be the result of sociopolitical or technological hegemonies.

Sociopolitical hegemonies result from political entities dictating e-learning choices, and can involve online censorship (or even selective freedoms), trade restrictions, membership restrictions, visa bans for conference-goers, gathering people's online data for political purposes, and the like. Sociopolitical hegemonies are extremely dependent on context; what is a major stumbling block in one country might not affect another at all. This was seen in Marandi (2023), where Iranians were seen to be severely impacted by problems that were often unique to their context, such as numerous sanctions, restrictions, and bans they were subject to as a result of long years of being demonized by politicians in international mass media. Figure 3 is a screenshot of an email received by myself, approximately two months after having received a *complimentary* membership for TESOL, due to having worked as a volunteer for some years as a coordinator for the CALL-SIG's annual EVO event. (The name of the sender is redacted, as that person obviously had no choice whatsoever in the matter.) As can be seen in the screenshot, I was being informed that I would be unable to renew my membership the coming year, due to living in Iran.

Unfortunately, such problems are the less easily resolved due to the very lack of awareness among those not affected. Figure 4 below, for example, is how a respected colleague chose to write while rejecting a paper that touched upon the hegemonies that Iranians are often exposed to. Although her response is by no means uncommon, it is sadly reminiscent of the infamous argument, "We can't be racist because we have black friends."

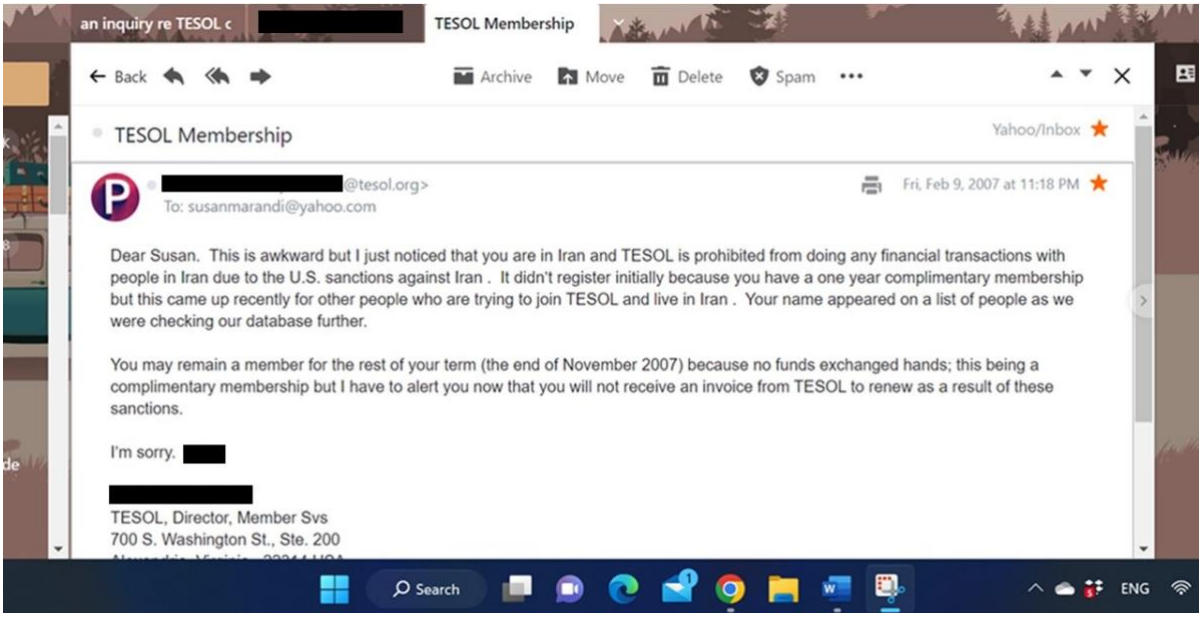

Figure 3: Sample sociopolitical hegemony unique to Iranians.

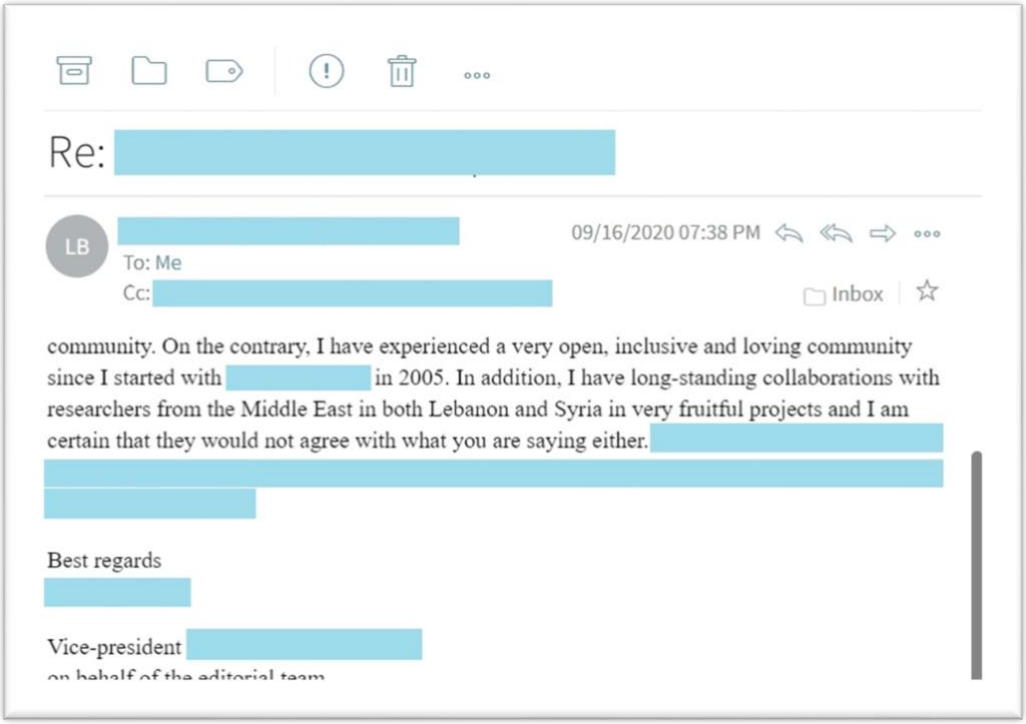

Figure 4: Redacted rejection of publication about hegemonies experienced by Iranians.

However, one need go no further than a few websites to provide proof that Iranians are, without a doubt, the target for many sociopolitical hegemonies that others are fully unaware of. Figure 5, for example, demonstrates how Iran was excluded from the countries listed for online registration for an international CALL conference, making it impossible for Iranians to register. In Figure 6, Iran is explicitly mentioned as being prohibited from receiving the services sanctioned by the U.S. government by a popular MOOC platform. And in Figure 7, it can be observed that, as the Iranian author of an academic manuscript being submitted to an international journal, I am being asked to confirm that I have not prepared the article as a representative of the Iranian government, before I am even able to submit the manuscript for review.

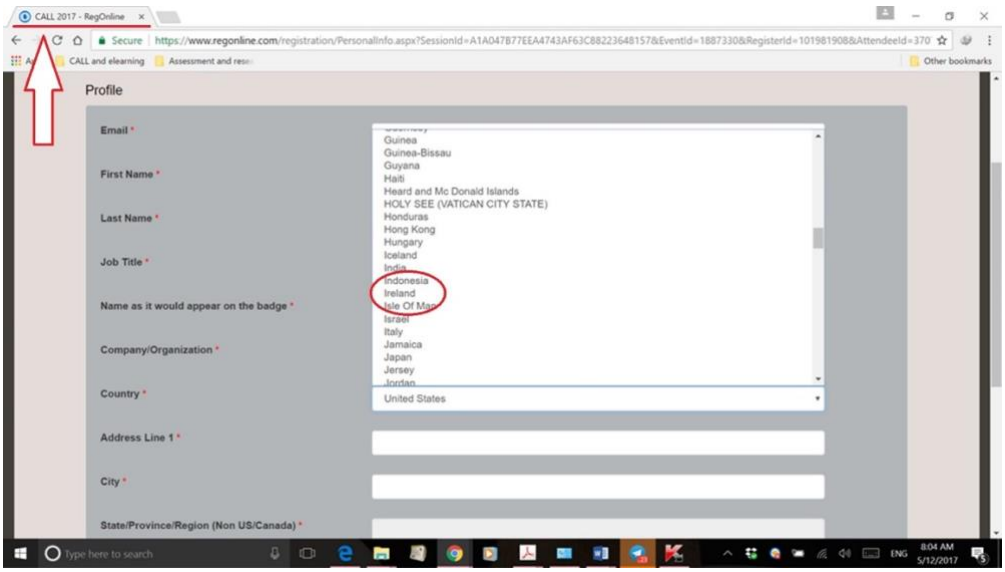

Figure 5: Iran excluded from list of countries for registration in international CALL conference.

Figure 6: Iranians excluded from services of celebrated international MOOC platform.

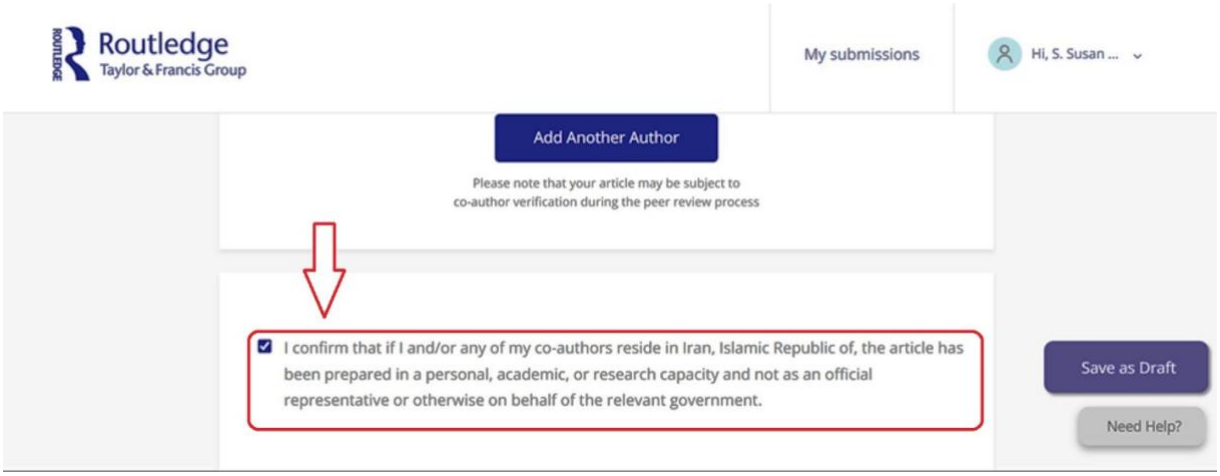

Figure 7: Iranian having to disassociate themselves from their government before being allowed to submit their manuscripts for academic review.

Obviously, this is just the tip of the iceberg, but it hopefully suffices to demonstrate that the person who wrote of her "long-standing collaborations" with Middle Eastern researchers (Figure 3), whom she was "certain … would not agree with what [I was] saying," had judged a bit too hastily.

And therein lies, perhaps, the gravest harm that digital neocolonialism and e-learning hegemonies can inflict upon a society, since, ironically enough, even such lofty ideas as "intercultural competence," "dialog," "diversity," and "inclusivity," appear to have their own gatekeepers.

Conclusion

In the interests of educational justice, this paper attempted to shine the spotlight on the muddy footprints of e-learning hegemonies in the CALL community. It was observed that these little-studied hegemonies are closely intertwined, thus indicating that attempting to remove one kind without focusing on the others may not be very productive. It was also established that the existing hegemonies are very much context-dependent, as was seen in the case of sociopolitical hegemonies in Iran. Finally, I conclude that creating awareness is

paramount, and that obliviousness toward the contextualized hegemonies of one group can ultimately lead even the well-intentioned gatekeepers of educational justice to shut and lock the gate to competing narratives.

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Investigating the Way Contextual Teaching and Learning Approach Improves Senior High School Students' Writing Skill in Indonesia

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Abstract
The English language has become a compulsory subject for high school students in Indonesia, and one of the most essential skills that students are required to acquire is writing. Nevertheless, it has been noted in previous research that students continue to encounter challenges when it comes to performing a task of writing. This study aims to investigate how contextual teaching and learning approach facilitates students' improvement in their writing skill. The study involves 35 eleventh grade students in one public high school located in Kabupaten Bogor, West Java province, Indonesia. The study employed a qualitative research design, utilizing a learning journal as the primary instrument for data collection. The data was analyzed by content analysis based on the four characteristics of contextual teaching and learning approach as outlined by Johnson (2002). These characteristics include doing significant work, fostering self-regulated learning, promoting collaboration, and facilitating the development of critical thinking skills. The findings of the study indicate that the contextual teaching and learning approach contributes to the enhancement of writing skills among high school students through four distinct ways. The components encompassed includes: 1) the creation of meaningful task, 2) the obtainment of information independently, 3) collaboration within a group setting, and 4) the practice of asking questions. All in all, it is recommended that the implementation of contextual teaching and learning be considered as a viable alternative approach for writing within the senior high school context.

Keywords: Contextual Teaching and Learning, Senior High School, Writing

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Introduction

Indonesia, as the populous country in the non-English-speaking world, remains a significant market for English language education (Hamied et al., 2013) Additionally, English is regarded as a foreign language in Indonesia. However, the language holds great importance for the country because of its multiple regional and worldwide attractions. Indonesia's present language policy regulates the instruction of the language at three educational levels: primary, secondary, and tertiary education (Lotfie & Hart, 2018). In the Indonesian education system, the senior high school level is equivalent to secondary education. The English subject is currently taught according to the 2013 Character-Based curriculum, as stated in National Minister's Regulation No.69 (Zein et al., 2020). This curriculum prioritizes the development of four language abilities in English language learning: speaking, listening, reading, and writing. Furthermore, writing is seen as a crucial skill that students are expected to possess (Toba & Noor, 2019). The primary rationale for emphasizing the development of writing skills among senior high school students is the implementation of the Genre-Based Approach in the 2013 National Curriculum. This approach introduces the study of English by exposing students to learn a wide range of texts in English (Putra, 2014). On top of that, the objective of studying English in the 2013 National curriculum is to enhance the students' proficiency in four key areas. These areas encompass: 1) recognizing the social function of spoken and written text structure in their everyday activities: 2) employing interpersonal, transactional, and functional communication; 3) organizing and revising spoken and written text to ensure accuracy and coherence; and 4) utilizing language features effortlessly and precisely (Riadi, 2019).

Undoubtedly, despite the emphasis on developing writing proficiency in the 2013 National Curriculum, senior high school students encounter challenges while attempting to write in English. A study conducted by Novariana et al. (2018) identified that senior high school students are faced with two issues when attempting to write in English: internal issues, such as students having low motivation in learning English, having difficulty understanding the context or topic in writing, difficulty in selecting appropriate words, and writing the sentence in accurate structure, having a lack of vocabulary and being passive learners in the classroom; and external issues, such as lacked of writing exercise and receiving no feedback in writing.

In addition to the challenges students encounter in writing, it is worth mentioning that the writing instruction used in the classroom can also be a contributing factor that impedes students' progress in writing. Ariyanti (2016), found that in the writing instruction, students tend to replicate and memorize example texts provided by the teacher without understanding how to apply the subject matter to their real-life context and practical communication. As a result, employing an effective instructional approach is crucial for fostering students' writing skill. To enhance students' writing skills, it is important to employ teaching approaches that are relevant to their real-life situation, experiences, and interests (Kusuma et al., 2010; Sears, 2002).

Research Question

The contextual teaching and learning approach can be employed as an alternative approach to enhance the writing skill of senior high school students. The rationale behind the selection of this approach was that both students and teachers occasionally encounter an issue where writing lessons and instructions lack context. Hence, employing a contextual teaching and learning approach can serve as a practical option to address the aforementioned issues.

Johnson (2002) defines contextual teaching and learning as a pedagogical approach that involves students in meaningful activities that enable them to establish connections between their academic studies and the real-world situation. Recent studies have shown a growing interest in investigating the effectiveness of contextualized and meaningful learning environments, particularly in the context of writing instruction in senior high school level (Jayanti & Rozimela, 2022; Jubari et al., 2022; Nawas, 2018; Satriani et al., 2012; Windi & Suryaman, 2022). Previous studies have consistently revealed effective outcomes when employing the contextual teaching and learning (CTL) approach in quantitative research. Specifically, these studies have demonstrated considerable improvements in English writing skills after learning with the CTL approach. However, the exploration on the way the approach can help improve students' writing skill remain insufficient. Therefore, the objective of this study was to investigate the way in which the contextual teaching and learning (CTL) approach help improve students' writing skill. The study addressed the research question as follows:

1. How can the CTL approach improve students' writing skills?

This research was carried out using a qualitative method. According to Gonzalez et al. (2008), qualitative research offers a comprehensive meanings, actions, both observable and non-observable events, attitudes, intentions, and behaviors. In addition, Cohen et al. (2018) stated that qualitative research allows participants to express their perspectives and explores underlying concerns that may not be immediately apparent in their behaviors and actions.

The research instrument used in this research is a learning journal, and it was employed by the end of the experiment, requiring nine students that were taken based on the posttest performance, which include high, average, and low scores, to submit their responses on the classroom platform (Google Classroom). Moreover, the content written in the learning journal was derived from the English textbooks specifically designed for eleventh-grade students in Indonesia, and it has been adapted to meet the objective of this research. Within the learning journal, students are required to document both successful aspects and areas in need of improvement encountered throughout the writing lesson with CTL approach. In addition, they were instructed to select the CTL elements that contribute to enhancing their writing proficiency, along with providing the rationale behind their choices.

The research was performed in one of public senior high schools, located in Bogor, a city in West Java province, Indonesia. The study included 35 male and female students enrolled in the academic year of 2023 who have mixed proficiency in English. In addition, the focused genre of writing used in this study is analytical exposition, which develops students' skills in writing a topic based on factual information. Furthermore, the duration of the study was ten weeks, during which the students participated in the class twice a week, with each session lasting for 90 minutes.

The data collected from the learning journal was subjected to content analysis using the four key characteristics of the contextual teaching and learning approach as defined by Johnson (2002: 24), which consist of 1) doing significant work, 2) self-regulated learning, 3) collaborating, and 4) enhancing critical thinking. In addition, the table presented below displays the frequencies and percentages of the terms identified in the students' learning journal.

Students' answer from learning journal	Frequencies	Percentages
Execution of meaningful task (doing significant work)		
Enhancing student's skill in topic understanding and promoting the work to a broader audience by employing an online writing blog.	21	52.5%
Conducting independent research (self-regulated learning)		
Enhancing student's skill in acquiring reliable facts independently in order to support their thoughts in writing.	5	12.5%
Working with a group (collaborating)		
Enhancing student's skill in writing through collaborative group work and having the opportunity to receive constructive feedback.	13	32.5%
Asking questions (enhancing critical thinking)		
Enhancing student's skill in critical thinking through the implementation of questioning activities.	1	2.5%
Total	40	100%

Table 1: Frequencies and percentages of key concepts from students' learning journal

The above table illustrates how the contextual teaching and learning approach enhances students' writing abilities in four specific areas, according to the four key characteristics of the CTL approach. The initial response, involving the execution of a meaningful task, in accordance with the first CTL characteristic (doing significant work), achieves a score of 52.5%. Based on the student's feedback in the learning journal, they stated that the process of writing in the class is more impactful following instruction using this particular approach. The improvement is demonstrated through the students' ability to convey their ideas clearly in the introduction to the conclusion paragraph, as they acquire knowledge about a topic that they can understand and that is relevant to their previous experiences. The finding is consistent with the research conducted by Salima and Hidayat (2020). Prior to using the CTL approach, the aforementioned research indicated that participants faced challenges in composing a piece of writing due to the complexity of the topics assigned by their teacher and described in their textbook, thereby limiting their ability to write in English. Conversely, when receiving the CTL approach, there was a noticeable improvement as the subject matter addressed during the classroom intervention was relevant to the students' previous experiences, enabling them to develop a strong understanding of the writing topic. Furthermore, students also conveyed that they had the chance to engage in meaningful activities during the writing process. The students' task in this research was to submit their work on an online blog. Consequently, it provided students with the chance to exhibit their work for a wider readership.

Following this, working with a group corresponding to the third CTL characteristics (collaborating) gains the second highest percentage at 32.5%. Throughout the writing process, students can engage in collaborative discussions and produce ideas collaboratively. As a result, they can offer valuable feedback and suggestions to each other while revising their work. It aligns with what Xiang et al. (2022) said in their study, who emphasized the importance of integrating collaborative learning into process-based English writing classrooms. While implementing collaborative learning in their studies, students can participate in activities such as brainstorming, reviewing outlines, revising, and editing their peers' writing. Additionally, they can share feedback and reflections as a group. Consequently, students are able to obtain access to learning resources within a community

dedicated to learning. Additionally, conducting independent research, corresponding to the second CTL characteristic (self-regulated learning), results in 12.5%. In terms of this area, students documented in their learning journal that learning how to search information independently, following the instructions given by their teacher, enhanced their capacity to substantiate their writing with relevant and reliable sources. The result from this statement is aligned with Derseh (2020) as well as Wale and Bogale (2021). These studies highlight that the phase of gathering information through self-regulated learning enables students to independently conduct research and gather information to enhance their writing skills, particularly in terms of paragraph structure. Finally, a minor percentage was found in asking questions, corresponding to the last CTL characteristic (enhancing critical thinking), which gains 2.5% from the students' learning journal. The questioning activity can provoke students' cognitive process in evaluating their comprehension of the paragraph structure and linguistic elements employed in English writing. Only one student documented in her learning journal that engaging in questioning activities helps her to validate the knowledge she has acquired during the class. In addition, she expressed that during this stage, she was compelled to discover the answer independently, as the teacher only posed a concept-check question to stimulate their thinking. According to Johnson (2002), the inclusion of a questioning element in the CTL approach offers various benefits. These benefits include helping teachers evaluate students' understanding, promoting student engagement, encouraging students to ask more questions, and reinforcing their knowledge.

Conclusion

This study aimed to investigate the way of the contextual teaching and learning (CTL) approach on enhancing the writing skills of eleventh grade senior high school students in Indonesia. The study's findings indicate that using the contextual teaching and learning (CTL) approach can support students in four key areas identified by Johnson (2002): doing significant work, self-regulated learning, collaborating, and enhancing critical thinking. Nine students, acting as respondents, exhibited a favorable reaction towards every essential characteristic of CTL. They documented their response through a learning journal, highlighting how each CTL characteristic might specifically aid in enhancing their writing skills, particularly in analytical exposition texts. Although the application of the approach was seen to be a success, it is important to acknowledge the limitations of this study. Initially, the number of participants is restricted as they were selected to serve as a representative sample and grouped according to their test scores. In order to obtain more robust results for each key CTL characteristic, it is necessary to include a larger number of respondents. Furthermore, it is essential to provide students with thorough training on the questioning method during a pre-meeting prior to discussing the application of the four CTL characteristics. The teacher should improve the questioning strategy employed to strengthen students' writing skills in critical areas. Additionally, the activity should be tailored to meet the individual needs of each student, ranging from high-scoring to low-scoring students, in order to ensure that all of them benefit from it.

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"I Can Talk to Spanish Speakers in Illinois!": Student Perspectives on AI-Avatar Role Plays in Virtual Reality

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Abstract

This paper reports on a study exploring students' perceptions of AI-avatar interactions within a virtual reality (VR) language learning environment, *Immerse*. As part of a large-scale project, this research explores the impact of Immerse's AI-powered avatars on the educational experience of 54 high school participants. Based on students' attitudes and opinions expressed in post-use surveys, findings reveal a positive experience. The majority of students expressed enjoyment, being able to understand the AI chatbots, and being focused on the VR activities. Challenges, such as technical and acoustic difficulties, underscore the need for refinement in VR technology. This study contributes insights into the ongoing integration of AI-avatar role plays in VR-assisted language education.

Keywords: Virtual Reality-Assisted Language Learning, Artificial Intelligence, AI-Powered Avatars, Student Perspectives

Introduction

This paper reports on the early stages of a large-scale project examining student attitudes and perceptions of learning with AI-avatars in the VR language learning platform, *Immerse* (Thrasher et al., 2023). With grant-funding received in collaboration with Immerse, Inc. from Facebook/Meta, we are conducting a large-scale project that involves distributing 500 VR headsets across 10 high schools located throughout Illinois, California, and Texas, and evaluating their impact on language education. As of December 2023, approximately 487 students are actively involved in the project.

This paper will focus on a subset of 54 participants (n_1 = 54) who have been using Immerse's AI-powered avatars for L2 speaking practice in Spanish or French. After an overview of the project and language learning platform, students' attitudes regarding the impact of conversing with AI-powered avatars on their language learning will be presented. Understanding students' opinions towards interacting with AI-powered avatars in VR is critical, as AI and VR technologies are continually being refined and becoming readily available to educators.

Conversational AI in Second Language Acquisition

Conversational AI is designed to simulate real-life conversation thanks to natural language processing (NLP) and natural language generation (NLG). With its recent surge in development, many CALL researchers have focused on using conversational AI in second language education. While several studies have explored the potential of this technology to improve students' willingness to communicate (WTC) and foreign language anxiety (FLA; Ayedoun et al., 2019; Lee & Lee, 2020; Tai & Chen, 2020), most studies have focused on students' perceptions of conversational AI due to the relative novelty of the technology in SLA (Fryer et al., 2019). The connection between students' positive perceptions of conversational AI and students' engagement in foreign language classes has been documented (Dizon & Tang, 2020; Yang et al., 2022). As positive perceptions of the technology are closely tied to the human-likeness of conversational AI partners (Ebadi & Amini, 2022; Fryer et al., 2019, Wang et al., 2022), immersive conversational AI, which combines personalization of AI-powered bots with immersive experience in VR, warrants further exploration in foreign language classrooms.

Several short-term studies on immersive conversational AI in SLA have been conducted in non-naturalistic settings. For example, Hassani et al. (2016) reported significant learning gains in the speaking skills of 10 university-level English as a Second Language (ESL) students. Divekar et al. (2021) reported gains in vocabulary acquisition, increased WTC, and positive perceptions of the technology among Chinese as a Foreign Language learners. Nevertheless, more research needs to be conducted in a naturalistic setting with high-school students focusing on other languages to contribute to the ecological validity of studies on immersive conversational AI for SLA.

Methods

Participants in the study were 54 high school students enrolled in either French or Spanish language classes. Their ages ranged from 13-19 years old (M = 15.46, SD = 1.11). All students came from central Illinois, USA.

Students completed all VR activities in Immerse (www.immerse.com) using a Meta Quest 2 VR headset. In Immerse, students engaged in AI-powered avatar role plays which allowed them to practice different communicative tasks one-on-one with an avatar in the target language. Immerse has dozens of AI-role plays for pre-A1 – B2 (i.e., beginner-intermediate) level learners, based on the Common European Framework of Reference for Languages (CEFR). Scenarios ranged from ordering at a restaurant to talking about ailments at the doctor's office (Figure 1). Students were guided through each role play by a checklist that told them what they needed to accomplish (Figure 2). Immerse offers built-in features that allow students to ask for hints and translate words into English or their L2 when at a loss for words. The AI avatars, powered by ChatGPT 4.0, can "understand" input that is not entirely correct grammatically and can also reply to requests from the learners, for example, to speak more slowly (see Figure 2).

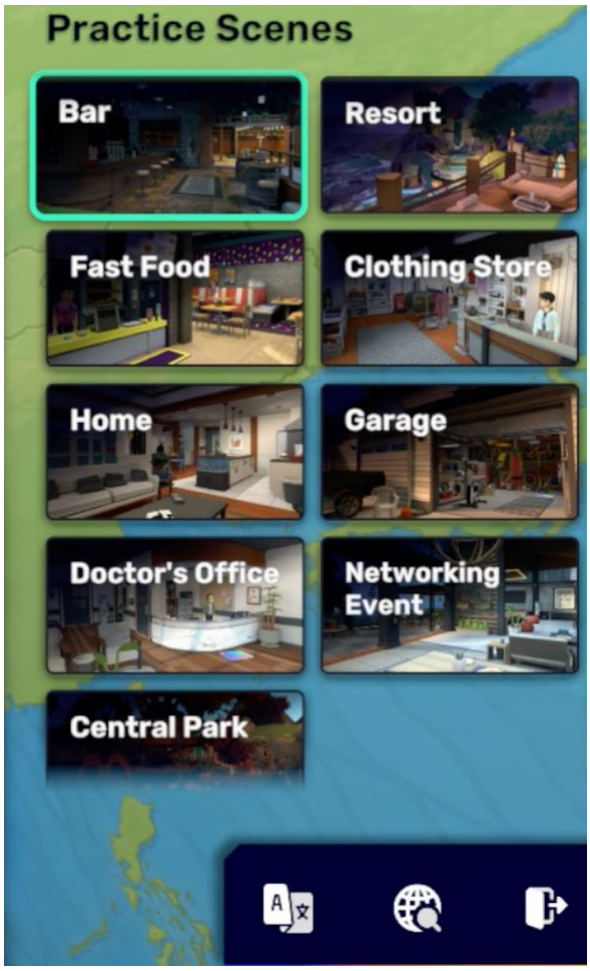

Figure 1: AI practice scenes in Immerse

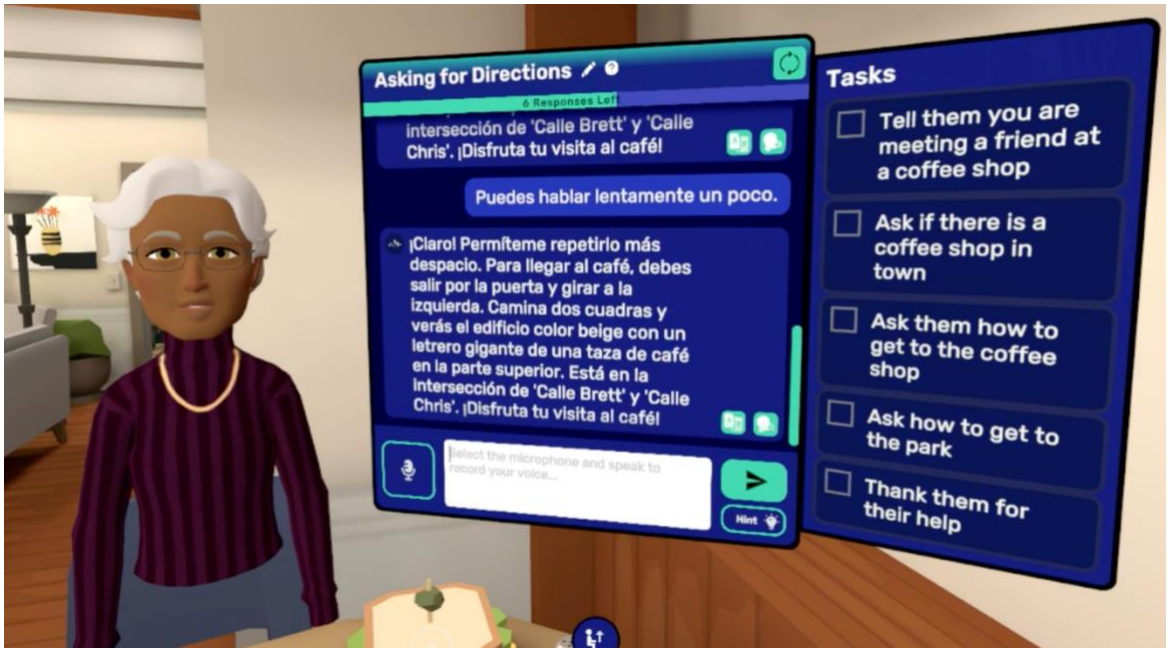

Figure 2: Screenshot of AI-powered role play asking about directions

For this study, students completed role plays in Immerse's shopping center, fast-food restaurant, and home scene. All role plays were selected by teachers to ensure that the task aligned with what students were learning in their language classes.

Following each VR activity, participants completed a 5-point Likert-scale post-activity questionnaire where they gave feedback on their experience. In this survey, participants rated 21 statements that targeted constructs such as enjoyment, FLA, and cognitive load. This survey was kept brief to allow students to quickly respond and not detract from class time. Students were also asked to provide qualitative feedback about what they liked and disliked (if anything) about the AI-powered role-play scenarios.

Findings and Discussion

Table 1 presents participants' ratings to a subset of 10 questionnaire statements, particularly those pertinent to students' interaction with the AI avatars.

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I enjoyed using VR today.	7.69%	15.28%	12.82%	33.33%	30.77%
VR helped me communicate easily in the foreign language.	8.11%	21.62%	21.62%	37.84%	10.81%
I understood most of what the AI bot said.	5.56%	8.33%	8.33%	44.44%	33.33%
Chatting with the AI bot helped me learn phrases and sentences.	5.56%	19.44%	13.89%	41.46%	19.44%
Chatting with the AI bot felt like a real conversation.	9.09%	15.15%	33.33%	33.33%	9.09%
I felt relaxed when completing the activity today.	5.56%	16.67%	30.56%	33.33%	13.89%
I felt confident during this activity.	2.86%	17.14%	25.71%	40.00%	14.29%
I was more nervous during this activity than during normal class time.	25.71%	45.71%	20.00%	8.57%	0%
I was fully focused on the activities in VR today.	3.03%	6.06%	21.21%	57.58%	12.12%
I was distracted by too many things in VR today.	15.15%	48.48%	18.18%	15.15%	3.03%

Table 1: Students' post-activity survey responses

Students' responses indicate that they had a positive experience using VR. Most students (64.1%) reported enjoying using VR. Moreover, about half (48.65%) of participants said that it helped them communicate easily in a foreign language. Regarding interacting with AI-bots, the majority (77.8%) expressed being able to understand most of what the AI-bot said, and 60.9% of the students said that chatting with AI helped them learn new phrases and sentences. Claiming that chatting with AI felt like a real conversation was expressed by 42.4% of the participants.

Regarding students' confidence and focus in VR, almost half (47.22%) of the students reported being relaxed, with a little over half (54.29%) being confident during VR activities. Only 8.57% of students said that they were more nervous during VR activities than during normal class time. The majority of participants (69.7%) said that they were able to be fully focused on the VR activities and only 18.18% reported being distracted by things in the VR environment.

Lastly, students provided both positive and negative comments about their AI-VR experiences (Table 2).

What students liked:	What students disliked:
Exploration • "Exploring new locations." • "It was fun to take a break from a normal class setting." *Interaction* • "Talking to others." • "Got to have an advanced conversation." • "The natural conversation with the task list is nice." • "That I can talk to Spanish speakers in Illinois." *Learner Autonomy* • "I like just being on my own and being able to learn the meaning of words I didn't know easily." • "Everyone was able to work on their own activity and could choose the difficulty at which best fit their skill level."	*Technical Issues* • "The AI didn't often work." • "Microphone didn't pick up my speech even when it was loud." *Communication Issues* • "I was unable to communicate with the AI bot in any capacity." *Classroom Issues* • "Talking with everyone in the room is challenging." *Lack of Student Training* • "I felt like I didn't know enough about the headset in order to fix problems myself."

Table 2: Students' qualitative feedback

Although students were provided with headphones that could be used with the headsets, they still struggled at times to communicate effectively with the AI-bots due to background noise from their classmates who were located in the same physical space. This is a limitation of using VR in a classroom setting, as most VR experiences have been designed for users to connect while being physically located in different locations.

Conclusion

This study examined students' perceptions regarding interaction with AI chatbots in *Immerse* within the context of foreign language education. The findings reveal a generally positive reception to VR as a language learning tool. Most students enjoyed the VR experience, feeling capable of understanding the AI bot's speech, and learning new phrases and sentences. These findings are aligned with previous studies reporting positive perceptions towards conversational AI (Dizon & Tang, 2020; Yang et al., 2022) and new vocabulary acquisition facilitation (Divekar et al. 2021). Interestingly, the minority of participants felt that chatting with the AI bot was like a real conversation. This finding warrants further investigation. Perhaps integrating more VR actions or interactions with the AI conversations could be considered. Nonetheless, in the open-ended comments, students appreciated being able to talk to others (e.g., Spanish speakers in Illinois) and having "advanced" and "natural" conversations with the AI chatbots.

Most participants expressed high confidence. Importantly, they believed they were able to fully focus on activities in VR which highlights VR's ability to immerse learners in the virtual environment. However, challenges, such as communication difficulties with AI-powered avatars and technical issues, underline the need for further refinement. To address these challenges, we suggest the manufacturers enhance microphones to eliminate background noise while recording. In addition, we suggest that students receive sufficient training on how to better navigate hand controllers in VR. Pedagogically, we suggest that AI interactions with chatbots are better suited as individual assignments or small-group activities, but not as whole-class activities. As VR technology advances, addressing these challenges will be crucial to maximizing the benefits of AI-avatar role plays in language education.

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Exploring Chinese EFL Learners' Willingness to Communicate in a Self-Developed 3D Virtual Environment

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Abstract
Willingness to communicate (WTC) has been recognized as a prerequisite for successful foreign or second language learning. Hence, numerous studies have been conducted to improve English as a second language (EFL) learners' WTC. With the advancement of digital technologies, virtual reality (VR) has gained its growing recognition in technology-enhanced language learning. However, few empirical studies so far have been focused on investigating the impact of VR on EFL learners' WTC. To fill the gap, this study set out to explore the potential of a self-developed 3D virtual environment for enhancing Chinese EFL learners' WTC and exploring their perceptions of the VR-assisted English learning approach. Seventy college students from two intact classes were randomly divided into either the experimental group or the comparison group. WTC questionnaires and semi-structured interviews were conducted for both quantitative and qualitative data. The quantitative results indicated that students in the experimental group were more willing to communicate at the end of the experiment than those in the comparison group. Moreover, thematic analysis of the qualitative data revealed that VR players enjoyed interacting with virtual objects and characters, as it helped ease their anxiety and motivate them to communicate in English. In conclusion, this study provided empirical evidence that the use of VR exerts a significant impact on EFL learners' WTC and the majority of VR players held a positive attitude towards the use of VR for English learning. The pedagogical implications concerning VR-assisted language learning are discussed.

Keywords: Virtual Reality, Willingness to Communicate, EFL Learners, Higher Education

Introduction

For English as foreign language (EFL) learners, improving communication skills has long been considered as a strong incentive to embark on foreign or second language learning (Fernández-García & Fonseca-Mora, 2019). However, EFL learners have long been suffered from insufficient time and opportunities to speak and practice in English (Hung et al., 2023; Tai & Chen, 2020; Tseng & Yeh, 2019). Moreover, they often feel anxious, lack of confidence and fear of making mistakes and receiving negative evaluation in class (Hamouda, 2013; Tai & Chen, 2020). As a result, they are reluctant to communicate with classmates and teachers in English. According to MacIntyre et al. (1998), L2 WTC refers to "a readiness to enter into the discourse at a particular time with a specific person or persons, using an L2" and is regarded as a building block of L2 communication. Therefore, it is of great importance for EFL instructors to find effective approaches to facilitate EFL learners' willingness to communicate (WTC).

The rapid development of innovative technologies provides new opportunities to meet the needs of language education. EFL learners can now embrace a variety of digital tools to learn the target language (Tai & Chen, 2020). Virtual reality (VR) is a system that creates an immersive, interactive, and stress-free environment (Lloyd et al., 2017), in which learners can obtain much input and has ample opportunities to practice the targeted language. Recent studies have provided important insights into using virtual reality technology in learning languages such as English (Ebadi & Ebadijalal, 2020; Tai et al., 2020), Chinese (Xie et al., 2019), Japanese (Yamazaki, 2018) and Spanish (Melchor-Couto, 2017). In addition, VR is also particularly popular for training linguistic competencies, including speaking (Parmaxi, 2020), listening (Tai & Chen, 2021) and writing (Chen et al., 2020). However, the potential and possible contribution of VR on EFL learners' WTC still remain unclear. Therefore, the present study set to investigate the impact of VR on Chinese college EFL learners' WTC and their perceptions of the use of VR for English learning. The study was guided by the following two research questions:

(1) Does VR technology significantly promote the EFL learners' willingness to communicate in English?
(2) What are the EFL learners' perceptions of VR for English learning?

1. Method

1.1. Participants

A total of 70 sophomores (46 males and 24 females) aged 18-21 years old were invited to take part in this study. They were attending a college English course at a comprehensive university in Chinese mainland, in order to enhance their overall English skills especially speaking proficiency. All participants had at least 6 years of formal English education, and their English proficiency had been confirmed by passing the College English Text Band 4 (CET-4). All the participants were randomly assigned to either the experimental group (i.e. VR players) or the comparison group (i.e. video watchers).

1.2. Instruments

1.2.1. Learning Platform

The self-developed Situational English in Virtual Reality platform (Figure 1) was employed as the experimental device for the current study. By simulating major scenarios and check-in procedures at the international airports (Figure 2), the platform focused on the practical use of English in learners' everyday life and the promotion of their communication skills (Figure 3). Learners could choose any of the seven task modes, such as Practicing (ABCD), On-site Experiencing, Testing and Customization to hone their language skills.

Figure 1: The Self-developed Situational English in Virtual Reality Platform

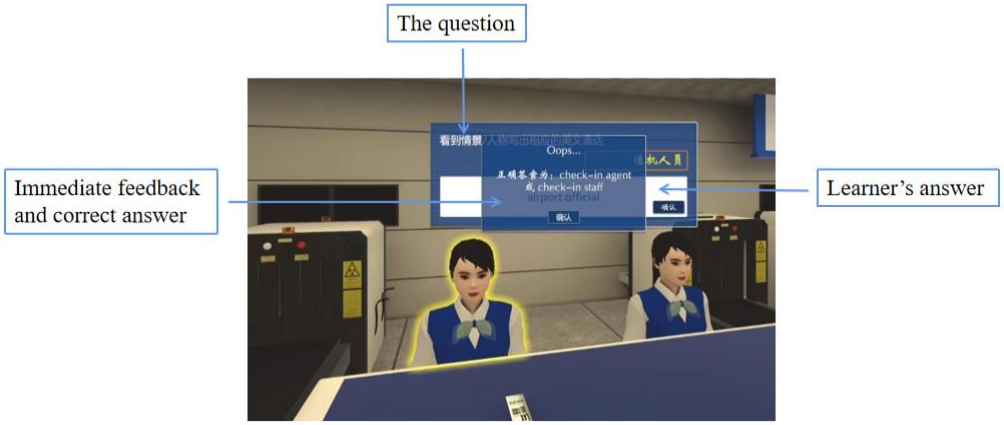

Figure 2: A Question-answer Example in the VR Learning Platform

Figure 3: Example Conversation with a Virtual Character

1.2.2. WTC in English Questionnaire

The WTC in English questionnaire was adapted from Reinders and Wattana's (2014) WTC scale including two dimensions: learners' perceptions of their willingness to communicate and their state of self-perceived communicative competence. The adapted version is a 15-item scale with two dimensions. The first section was composed of five items concerning students' willingness to communicate in English during the experimental process. The second section included ten items exploring students' state of self-perceived communicative competence in a VR learning environment. The internal consistency reliability of the original questionnaire was considered to be good, with Cronbach's alpha values of .76 and .89 for two constructs respectively. The items were presented on a 5-point Likert scale ranging from *strongly disagree* (1) to *strongly agree* (5).

1.2.3. Semi-structured Interviews

Semi-structured interviews were conducted in order to obtain more in-depth insights on the participants' attitudes and perceptions toward the impact of VR on their WTC and English learning. Three interview questions are as follows: (1) Did you find VR activities helpful in terms of facilitating communication in English? (2) What were your favorite parts of the VR experiment that promote WTC? (3) How did you feel about VR for English learning?

1.3. Procedure

This study was carried out for six weeks, with two 45-minute classes each week (Figure 4). To start with, the participants completed a background questionnaire and the WTC questionnaire. In the following week, all the participants were introduced to the operation of Moodle platform. In addition, the VR group was also informed of the basic instructions about the operation of the VR platform. Starting from week three, VR players did learning activities on the VR platform, while the video watchers learned the same content by watching instructional videos on personal computers. In the final week, all participants were asked to complete the post-test WTC questionnaire. Moreover, eight students, four from each group, were chose to participate the semi-structured interviews based on convenience sampling. Students' mother tongue, Chinese, was used through the whole interviewing process in order to ease them and get clear and comprehensive replies. Each interview lasted around 20 minutes through the platform Tencent Meeting, and the interviews were audio-recorded and transcribed for further analysis.

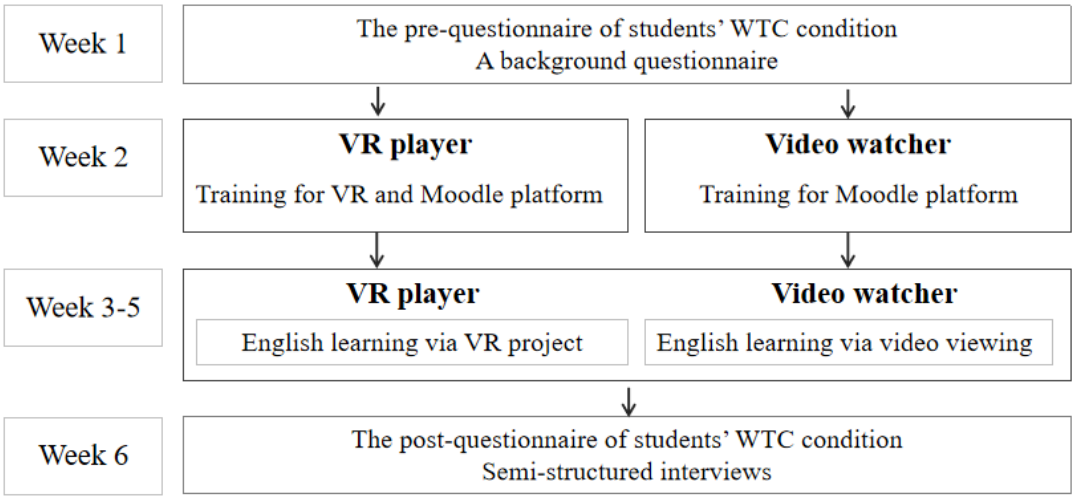

Figure 4: Experimental Procedure of the Study

1.4. Data Analysis

Data analysis consisted of two stages in order to address the research questions. In the first stage, one-way analysis of covariance (ANCOVA) was conducted to analyze the quantitative data obtaining from learners' pre-test and post-test WTC questionnaire, so as to explore the impact of VR-assisted learning approach on learners' WTC in English. In the second stage, the thematic analysis method was used to analyze the qualitative data gathering from participants' responses to the semi-structured interviews, in an attempt to identify and categorize students' individualized and differentiated experiences of VR-assisted English learning. SPSS 25.0 and NVivo 11.0 was employed to analyse the quantitative data and the qualitative data respectively.

2. Findings and Discussion

2.1. Quantitative Results

To investigate whether the use of the desktop VR platform has an impact on participants' WTC, ANCOVA was carried out to examine the quantitative data obtaining from students' pretest and post-test of WTC questionnaires. Descriptive statistics including means, standard deviations, and adjusted means for willingness to communicate between the two research groups are displayed in Table 1.

The quantitative analysis of data evinces that there was no significant difference between VR players and video watchers in terms of their WTC performance at the beginning of the experiment. On the other hand, as illustrated in Table 1, a statistically significant difference was found in WTC between the two groups (p = 0.04). Although both groups have improvement in their WTC on the post-test questionnaire, the VR players were significantly more willing to communicate than the non-VR ones, p = .04, partialη^2= .07.

		Before Treatment		After Treatment		Univariate ANCOVA				
Group	*N*	Mean	SD	Mean	*SD*	Mean (adjusted)	*SE*	*F*	*p*	*η2*
Experimental	35	48.43	4.88	53.09	6.16	53.18[a]	0.9	4.65	0.04*	0.07
Comparison	35	49.91	4.95	50.51	4.25	50.42[a]	0.9			

*Note. *p < 0.05*

Table 1: Descriptive Statistics of Students' Pre-test and Post-test Scores and ANCOVA Results of Employing VR on EFL Learners' WTC

Given the value of the partial eta squared of .07, it can be concluded that the use of desktop VR has a significant impact on the participants' WTC in English. This finding substantiates that of Ebadi and Ebadijalal (2020), who reported the positive impact of Google Expeditions VR tool on 20 Iranian EFL learners, especially facilitating their L2 WTC. Therefore, we can claim that the desktop VR platform is a beneficial tool to improve the WTC performance of EFL learners.

2.2. Results of Interviews

By analyzing the qualitative data, the most prominent findings were that the desktop VR improved the L2 WTC and English proficiency of these college EFL participants.

The majority of participants were excited and motivated during their engagement in the VR activities. They particularly liked the conversations with virtual airport working staffs who made the interaction more realistic and delivered participants a sense of talking with real foreigners. Moreover, they provided immediate feedback in the process of communication, through which learners could realize their errors and try to modify utterances, so that to help them become more eager and confident to communicate with others. For instance, student VR-01 stated, "I liked talking with virtual airport staffs, because it felt like talking with foreigners. They provided me learning support, such as taking to me with native expressions and helping me check the correctness of my English. Therefore, I became more confident to communicate with airport officials in English instead of just replying OK, Yes, or No.". This finding corroborates with Tai & Chen (2020) 's study, demonstrating that the virtual environments provided students with ample opportunities to interact with virtual officials which helped to practice the target language (Tai & Chen, 2020).

Students also argued the strength of VR in providing a less anxious English learning environment, which increased their participation and bolstered their confidence in speaking English without feeling nervous. For instance, student VR-03 claimed, "I felt nervous to speak English in previous classes, because I was afraid of my classmates laughing at me for my poor English. I liked participating in VR activities, because its relaxed atmosphere helped me deeply comprehend learning materials and say anything without the fear of being judged by the classmates." The findings also align with the suggestion to provide a stress-free atmosphere for learners (Kang, 2005), in which they could avoid environmental distractions and immerse in practising the target language (Bonner & Reinders, 2018), which in turn help to improve their willingness to communicate.

Moreover, the overwhelming VR players indicated that their English vocabulary knowledge have been enhanced with the use of VR tools, and they tended to be more

willing to apply what they had learned in the virtual platform to the real world. Besides, some VR players indicated that some technical issues had distracted their attention.

3. Conclusion

The present study set out to investigate how the application of a VR platform to English language classroom impacts the L2 WTC of 70 Chinese college EFL learners. Results from the quantitative data indicated that the VR platform was of great significance for enhancing EFL learners' WTC. Then the qualitative results shed further light on the initial quantitative findings, showing that despite some technical issues of the VR platform, most VR players held a positive view of the use of VR for their English language learning.

3.1. Pedagogical Implications

The findings of this study indicate the positive impact of VR in facilitating EFL learners' English learning, especially their L2 willingness to communicate. Therefore, it is necessary for teachers to incorporate VR in the design of English-speaking lessons. Besides, as most VR players claimed that VR platform was beneficial and flexible for their vocabulary acquisition during the speaking activities, teachers may therefore employ VR to teach new vocabulary and sentence structures in future English courses (Ebadi & Ebadijalal, 2020; Tai et al., 2020). In such way, students can immerse themselves in virtual environments (Barrett et al., 2020) to acquire new words and sentences, and try to apply what they had learned in their daily lives.

Moreover, the interactive feature of the VR platform has successfully involved players in communicating and interacting with virtual characters (Ebadi & Ebadijalal, 2020). Therefore, the current study suggests that researchers and educators can adopt the VR tools into the instructional design, so as to help improve students' communicative competence and innovate their English-learning approaches.

3.2. Limitations and Future Work

However, this study also has some limitations. First, the sample size was relatively small, and all the participants were the second-year students from one single university, which may hinder the generalization of the research findings. Future research is encouraged to recruit cross-culture participants with larger group members. Secondly, technical issues sometimes occurred during the experimental period such as unstable internet connection, resulting in data losses. Such distractions not only interrupted learners' learning process but also affected their willingness to communicate to some extent (Sally Wu & Alan Hung, 2022). Therefore, technical experts are advocated to optimize the VR platform and teachers need to receive technical training and be prepared to in-time support. Thirdly, the current study only went through a short intervention time of six weeks. Therefore, the positive research findings may be influenced by the novelty effect, because it's the first time for all players to have the experiences of VR-assisted language learning. Future studies are suggested to conduct longitudinal experiment to obtain a more comprehensive understanding about the impact of VR on EFL learners' WTC.

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Trainee Teacher Perceptions of Smartphones as Teaching Resources

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WorldCALL 2023 – CALL in Critical Times
Conference Proceedings

Abstract
A range of research exists which documents how language learners use and perceive of smartphones as language learning resources. However, there remains a scarcity of research exploring readiness among educators to integrate smartphones into their teaching practices, and such investigation of the implementation of Mobile Assisted Language Learning (MALL) among EFL instructors is needed. This paper reports on a study of trainee teachers on a Master's Degree Teaching English to Speakers of Other Languages (TESOL) programme which examined both their existing MALL practices and their attitudes towards the future integration of MALL in their classrooms, and moreover, the extent to which they place importance on, and consequently, value training in, the use of smartphones as language teaching resources. Through a combination of survey and semi-structured interviews, the researcher first reports on their existing MALL practices and the factors which influence these, and then describes various contextual aspects which either increased or limited their enthusiasm for the integration of MALL in their teaching practices. The study with some comments on their perceptions of their responsibility as future English teachers and MALL practitioners, and the hope that the shifting perceptions identified in this study may become more widespread and may have knock-on effects on the training and support on offer to teachers who wish to better implement MALL activities and resources as part of their teaching repertoires.

Keywords: MALL, CALL, Teacher Training, Teacher Attitudes

Introduction

Smartphones have become an ever-present existence in the hands and lives of learners, to the point that they can be considered a 'digital appendage' (Hynes, 2021, p. 72), and there is a wealth of research into how language learners use and perceive the devices (Metruk 2022). However, Mobile-assisted Language Learning (MALL), and indeed Computer-Assisted Language Learning (CALL) in general, remains poorly addressed in many teacher-training programmes, as frequent rapid advances in technology and 'the growing emphasis on 21st century skills raise a concern about English as a foreign language (EFL) teachers' competencies in computer-assisted language learning (CALL) more than ever' (Park & Son, 2022, p. 320).

While MALL offers the potential for significant advances in language learning, and in particular, for informal language learning (Stockwell, 2021), many language teachers remain hesitant to actually employ the devices part of their teaching repertoire. Nikilopoulou *et al.* (2023) identified a number of barriers to the integration of MALL as a teaching method, including a lack of resources, a lack of support, and a lack of teacher confidence, which echoes Hafour's (2022) report that technical and digital literacy problems were the most challenging barriers to effective utilisation of mobile technologies.

While MALL advocates, such as the author of this paper, continue to argue for the importance of supporting learners in their development of the skills and knowledge needed to effectively employ smartphones as a learning resource, it is important to recognize that such a view may not be held universally among, or even by a majority of, students of Teaching English to Speakers of Other Languages (TESOL), and research indicates that more studies are needed on this theme (Khan *et al.*, 2018). This study explores the attitudes held by trainee teachers on a TESOL programme to smartphones in terms of their readiness for, and sense of importance of, the role of smartphones as a teaching resource.

Methods

This study was conducted with students across two cohorts of a Masters Degree TESOL programme at a university in Scotland between February and October 2023. Of the 28 students across both deliveries of the programme, four were male and 24 female, and there were 15 different nationalities, with China and Pakistan most represented with five students each.

The study employed a mixed methods approach that combined quantitative survey data and qualitative interview data. The survey was generated and distributed through Microsoft Forms, while the interview data was subjected to thematic analysis following the six-step process laid out by Braun and Clark (2006), in which themes are identified, aggregated, refined, and finalized. This qualitative process, in combination with the quantitative data from the survey, produced a data set that was robust in terms of both breadth and depth.

Results and Discussion

Three key themes were identified through the analytical process described above. The study first explored the participants' existing levels of comfort and readiness in relation to various devices. As Table 1 indicates, the survey data reveals that while a majority were comfortable

with laptops and desktops, there was a very notable drop regarding other devices, with 92.8% feeling very uncomfortable using smartphones in the classroom.

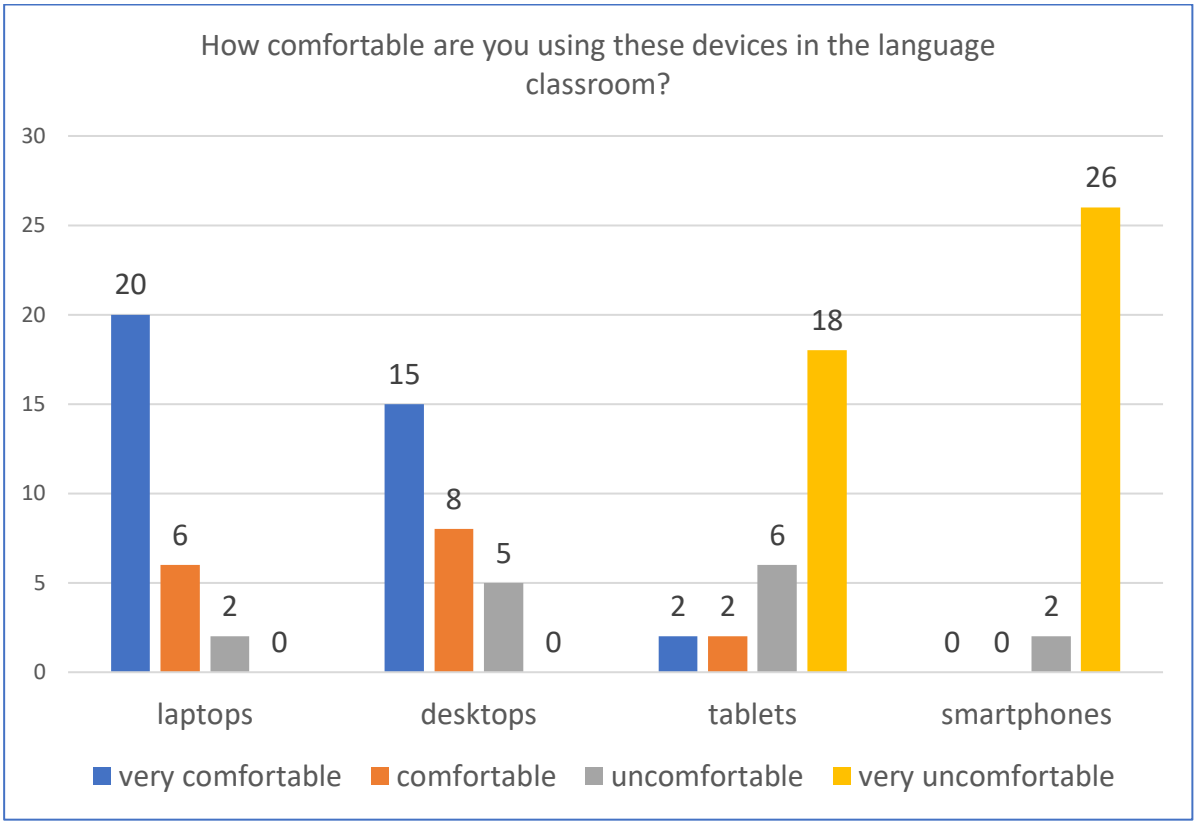

Table 1: Existing levels of comfort when using devices

This theme of readiness for mobile learning was further explored during interviews, and numerous participants revealed their lack of familiarity with smartphone resources. One commented that 'I'm not familiar with enough apps or how to use them effectively', while another focused on the fast-changing nature of resources, noting that 'I don't know which apps are any good or not, or even still available. It all changes so quickly.' Moreover, 92.9% (26/28) admitted that they did not know where to find information to help them become more familiar with MALL practices, and the need to familiarize themselves with LLAs was made explicit by another participant who commented that 'It's important for me to get to know them first, then maybe I'd try them.'

Overall, a majority of the participants' positive dispositions towards smartphones is evidenced by 21 comments by 19 different students, with one exemplary comment being ''Probably, they'll just get more and more common and from a younger age in the future, so it's something I'll need to learn.' Nevertheless, despite this disposition, and notwithstanding a recognition that, as one participant commented, 'I think we have a role in helping learners with this kind of thing', their own lack of familiarity with smartphones and LLAs, and a lack of knowledge regarding where to get useful information to improve familiarity, represented significant barriers in turning their positive attitudes into actual use of smartphones in the classroom.

However, as Table 2 indicates, a lack of familiarity was not the only factor that limited the participants' use of smartphones. There were also concerns over a potential loss of control in the classroom if students were given the freedom to use smartphones, and a related concern

regarding students becoming distracted by the devices, with participants mentioning the possibility of a short period of learning being followed by a longer period of distracted use, exemplified by one comment that 'The issue of distraction would be a problem…2 minutes of work and then they stay on the phones.'

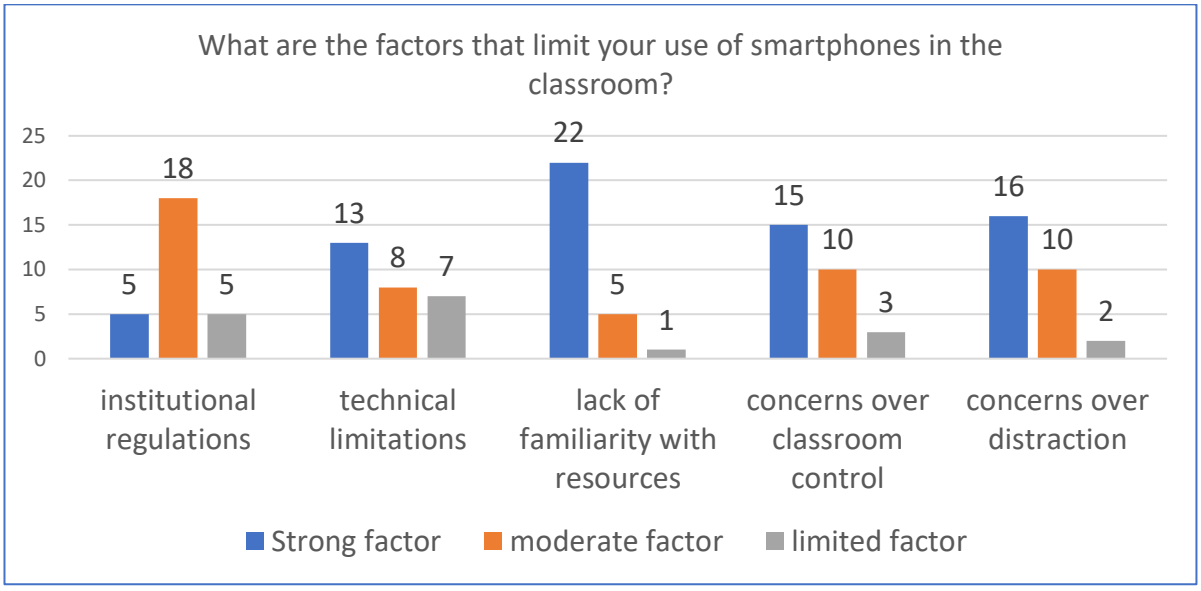

Table 2: Factors limiting use of smartphones

Moreover, given the home countries of the participants, which include countries where not just internet connectivity, but also electric power cannot be taken for granted, technical limitations were also identified as a notable concern from participants from various countries. It was primarily those participants from either the UK or China who reported these issues as only a limited factor. As one Nigerian participant commented, becoming more familiar with smartphones as a resource was 'down the list of things to learn. We need basic things like computers and even electricity first.'

The final theme described here is the kinds of support needed to raise levels of smartphone integration into their teaching repertoires. As Table 3 indicates, the most important factor is the need for more training to better familiarize themselves with MALL resources and teaching strategies, which coincides with the need for institutional support which would give them the time to undertake the necessary training. As one participant commented, 'I'd love to be involved, if I had time to do it.' The link between MALL and learner autonomy was also made clear by participants, as evidenced by the sentiment that 'I think the training would need to help me develop their autonomy too. It seems like that's where the real benefit would come in.'

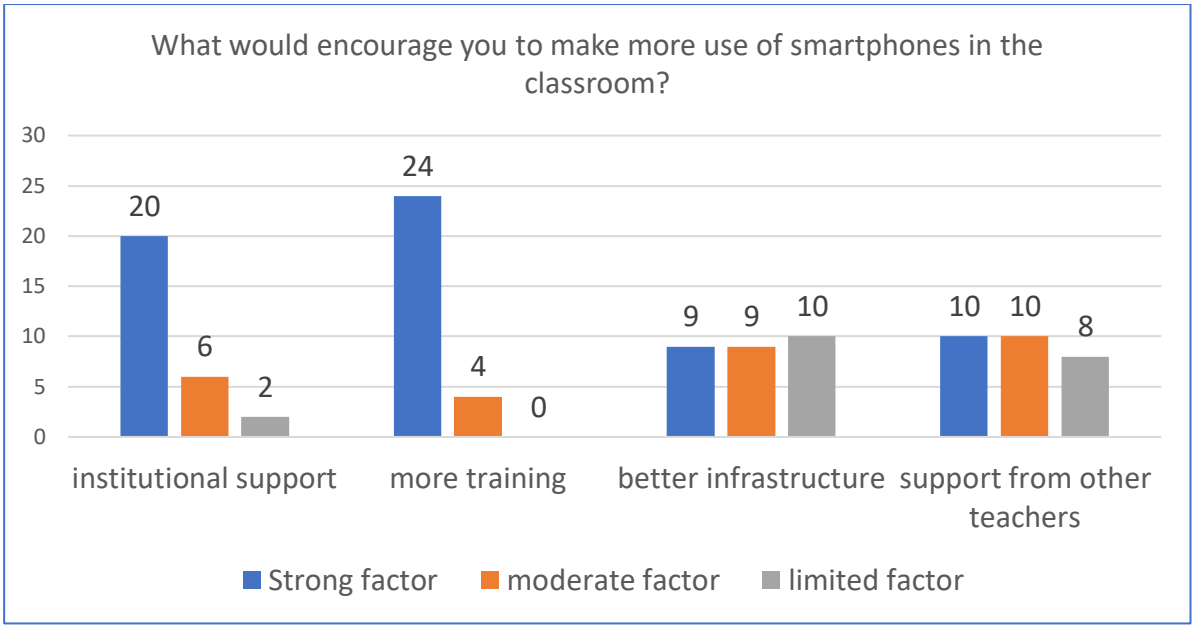

Table 3: Factors supporting smartphone integration

On the other hand, while some participants were positively disposed towards MALL, they did not see it as a priority, and depending on their teaching experience and their teaching environment, other issues were more urgent. Along with the participant from Nigeria who mentioned the more pressing need for stable electricity, another participant who had little teaching experience commented that 'I don't know…I feel like, if I'm going to get training, other things would be a higher priority.'

Overall, despite concerns regarding distraction and loss of control in the classroom that are already well documented in MALL literature (see for example, Metruk, 2020), the students in both MEd TESOL cohorts were, in principle, enthusiastic about MALL. Although none of the participants had any significant experience of MALL practices, with most having none whatsoever, they identified various benefits to MALL integration. For instance, during MALL-focused lectures on the programme, the cohorts welcomed exposure to the potential of social media as platforms on which learners, through curation of accounts being liked or followed, can generate a steady stream of exposure to authentic language on topics of interested to them, accompanied by the opportunity to comment on such posts. The links between MALL and independent learning were recognized, and a majority felt that making MALL a part of their teaching repertoire was not just a choice, but something which they felt was part of their role as current and future language teachers.

However, despite this generally positive disposition, actual MALL integration remained unlikely for most of the cohorts. Most reported a lack of training in MALL and familiarity with resources, and, crucially, a lack of awareness of how to go about finding such information or training opportunities, as well as the associated lack of institutional support that would give them the time and space to undertake such activity. Moreover, some participants from countries with less developed infrastructure noted that they had more pressing needs than MALL integration, including needs as basic as a stable supply of power in their schools. Although not explicitly focused on during the data collection process, in-class discussions which took place as part of MALL-focused lecture content on the MEd TESOL programme also highlighted the varying degrees of institutional permission that exist which allow students to bring their smartphones to school, or to use them during class.

Conclusions

This study explored the attitudes towards mobile-assisted language learning held by two cohorts of students on a Master's Degree in TESOL programme at a Scottish university. As this paper has described, their familiarity with language learning apps and other MALL resources are limited. Their lack of training and institutional support means that MALL integration remains unlikely for most, especially when balanced against more basic demands such as a reliable supply of power.

Nevertheless, despite these barriers, and although their existing MALL practices are virtually nonexistent, a majority remain generally enthusiastic about MALL and the role it could potentially play in learning both inside and beyond the classroom. Moreover, perhaps given the ubiquitousness of smartphone ownership in every country represented among the participants, and the access to resources the devices provide, it was notable that the participants generally considered familiarity with MALL not just an optional skillset but instead a responsibility they should bear as language teachers.

The implications of this are discovery are particularly significant, as they may highlight a developing teacher mentality regarding the centrality of MALL to language teaching and learning, and the responsibility of the language teacher in facilitating student use of the devices, that is more widespread. This perspective was evident despite the lack of and previous formal MALL training, and even among teachers who faced more urgent infrastructural needs.

Hopefully, the widespread presence of this perspective indicates a shift not just among the attitudes of teachers, but also those charged with teacher training and educational policy-making, that will recognize the increasingly central role that MALL can play in both formal and informal learning, and will result in changes to teacher education and teacher professional development that will better equip and support language teachers in their efforts to make mobile learning a part of their teaching repertoires.

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Investigating the Relationship Among EFL Learners' Grit, Engagement and Academic Achievement in the Blended Learning Environment: A Structural Equation Model

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WorldCALL 2023 – CALL in Critical Times
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Abstract

The arrival of the post-pandemic era has facilitated the shift from online to blended learning, marking a "new normal" in educational field. Along with students' adversity in such blended learning settings, the role of personality traits, especially grit, in promoting language learning engagement and performance remains crucial yet under-explored. To address this issue, the current study aims to investigate the relationship among grit, engagement and academic achievement in a blended English learning context. 402 students from a Chinese university were enrolled in the study. They participated in a 16-week mandatory English curriculum delivered through a blended learning approach with online practice on learning management systems (LMSs) merged into face-to-face instruction. By conducting a structural equation model (SEM), the nexus among English as a foreign language (EFL) learners' grit, engagement and academic achievement was delved into. The research results indicated that: i) EFL learners' grit positively predicted their engagement; ii) EFL learners' engagement positively predicted their academic achievement; and iii) EFL learners' engagement partially mediated the link between grit and academic achievement. Based on the direct and indirect effects of grit on English learning performance, the current research provides pedagogical implications for college English teachers to utilize effective instructional methods, including setting sustainable learning goals for students, inspiring their learning interest and improving their awareness of persistence so as to increase learners' level of grit in blended EFL education.

Keywords: Grit, Engagement, Academic Achievement, EFL Learner, Blended Learning Environment

Introduction

With the removal of physical restriction in the post-pandemic era, the reverse shuffle from online learning to blended delivery mode has become a new normal in higher education. However, such blended learning environment has posed a great threat to students, giving rise to their loss of belonging, decreased engagement and undesirable academic performance (Banegas, 2023). Since grit has been proved to be an important personality strength that contributes to EFL learners' classroom involvement and academic success in challenging situations (Zhao & Wang, 2023), it is worthwhile to investigate how students' grit impacts their engagement and academic achievement in a blended EFL learning context so as to help learners readapting to the post-pandemic educational landscape.

Academic grit, learning engagement and academic achievement comprise three essential and interrelated constructs in the current research. Grit is a non-cognitive personality trait defined by Duckworth et al. (2007) as perseverance and passion for long-term goals. Researchers conceptualized grit as a personality strength comprising both consistency of interests and perseverance of effort. While the former involves an individual's constancy of enthusiasm for ultimate purpose in difficult times, the latter refers to one's tendency to devote long-lasting energy despite failures and adversity (Wei et al., 2020). In the lens of educational psychology, engagement is defined as students' active investment of time, energy as well as effort in learning process (Zheng et al., 2023). The conceptual framework of learning engagement is multidimensional and flexible with different focus. From the traditional perspective, engagement is a three-faceted construct consisting of cognitive, behavioral and emotional dimensions (Fredricks et al., 2004). In recent years, scholars (e.g. Bergdahl et al., 2020) have developed a new four-component model of engagement, adding social involvement as a subtype. Considering that blended learning environment provides convenience for social interaction, this research employs the four-dimensional view of learning engagement. In addition, academic achievement represents students' cumulative performance and procedural endeavor in pursuit of learning goals in school settings (Mašková & Kučera; 2022).

The relationship among academic grit, engagement and academic achievement has long been investigated. For instance, Zhao & Wang (2023) have proved that grit is a facilitator of English learning performance among Chinese ethnic minority students. Sun & Shi (2023) have also confirmed that grittier learners dare to conquer difficulties and seek solutions for tough problems by actively engaging in language learning process. As stated by extant literature that grit is more closely linked to engagement than academic achievement (Tang et al., 2019), it is feasible to put forward the hypothesis that grit positively predicts academic achievement with engagement being the mediator. Although a great body of previous studies have explored the relationship among EFL learners' grit, engagement and academic achievement, their association within a blended learning context is under-investigated. To fill the gap, this research aims to confirm the hypothesized connection among the aforementioned three constructs in a blended English learning environment via structural equation modelling (SEM) approach.

1. Method

1.1. Participants

The present study was conducted in a telecommunication-featured university in mainland China. A random sample of 405 non-English major undergraduates (73.1% males), aging

from 19 to 22 years old, were involved. All participants were invited to a mandatory English curriculum lasting for an academic semester (16 weeks). Since the participants were considered as the first batch of students who reopened their school life after the pandemic lockdown, the course was delivered in classroom setting via a blended approach. Blended learning refers to a harmonious combination of face-to-face classroom components and appropriate use of technology in a synergistic manner (Al-Obaydi, 2013). Specifically, in the current research, it means that the learning tasks released on learning management systems (e.g. Moodle) were integrated into teachers' face-to-face instruction.

1.2. Instruments

Revised from Ebadi et al. (2018)'s and Luan (2020)'s well-developed surveys, two questionnaires were employed to measure students' academic grit and English learning engagement respectively. A five-point Likert Scale was adopted in both questionnaires from 1 'Strongly Disagreed' to 5 'Strongly Agreed'. The questionnaires were translated into Chinese, the native language of participants, for their better comprehension of scale items. Four-dimensional structure was used in the two questionnaires. While students' grit was gauged from aspects of trying hard to learn English (THLE), having interest in learning English (ILE), practicing a lot in order to learn English (PLE) and having goal for learning English (HGLE), their cognitive engagement (CE), emotional engagement (EE), behavioral engagement (BE) and social engagement (SE) were measured simultaneously in the English learning engagement questionnaire. In addition, participants' score of final-term examination in the aforementioned blended EFL curriculum served as the indicator of academic achievement.

1.3. Data Collection and Analysis

After removing the unqualified data, a total of 402 valid questionnaires were collected. The data analysis process involved three steps. First, we conducted a confirmatory factor analysis (CFA) to ensure the validity and reliability of both the questionnaires. Second, a structural equation model (SEM) was performed to confirm the hypothesized relationship among EFL learners' grit, learning engagement and academic achievement. Third, the bootstrap procedure was operated. With the help of SPSS 26.0 and AMOS 24.0 software, we attempted to explore whether grit positively predicted academic achievement with engagement playing a mediating role.

2. Findings and Discussion

2.1. Confirmatory Factor Analysis (CFA) of the Academic Grit Questionnaire and English Learning Engagement Questionnaire

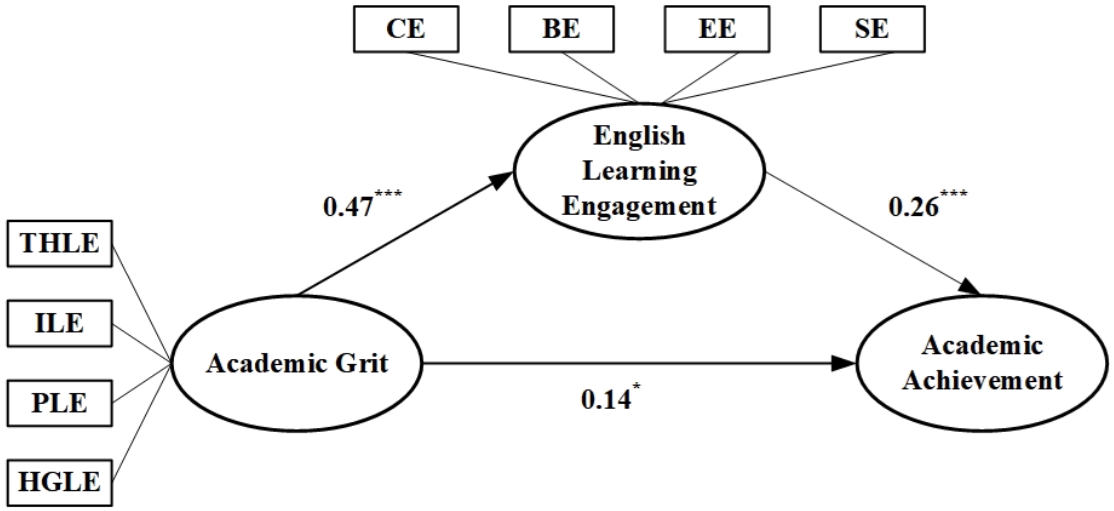
Confirmatory factor analysis was operated to test the validity and reliability of the instruments. As for the academic grit questionnaire, the CFA results showed that the factor loading of items ranged from 0.74 to 0.84, all surpassing the required minimum of 0.5. Average variance extracted (AVE) value of each subscale exceeded 0.64, reaching the minimum requirement of 0.5. The composite reliability (CR) values fluctuated from 0.876 to 0.883, greater than the threshold of 0.70. Moreover, the Cronbach's alpha of each dimension (0.876-0.881) in the academic grit questionnaire met the critical value of 0.70. Therefore, the reliability of this questionnaire was confirmed. In addition, the fit indices of the survey were showed below: x^2/df =2.23, GFI = 0.93, IFI = 0.97, NFI = 0.95, RMSEA = 0.055. Based on

the Chi-square criterion and the fitting statistics, the academic grit questionnaire was proved to have good structural validity.

The English learning engagement questionnaire was tested in a similar approach. According to the CFA results, the factor loading of all items (0.66-0.84) surpassed the baseline of 0.5. While average variance extracted (AVE) values of four sub-dimensions ranged from 0.59 to 0.68, the composite reliability (CR) values were in an interval from 0.86 to 0.89, all meeting the minimum standard. Besides, the Cronbach's alpha of all dimensions (0.85-0.89) surpassed the threshold of 0.7. Considering the structural fit of this survey, the relevant statistics were as follow: x^2/df =2.09, GFI = 0.94, IFI = 0.97, NFI = 0.95, RMSEA = 0.052. Therefore, this questionnaire is of good reliability and validity, qualified to further measure EFL learners learning engagement.

2.2. Model Fit Analysis

The hypothesized structural equation model conducted in AMOS is demonstrated in Figure 1 below. This established model presented desirable structural fit with acceptable fitting statistics (x^2/df =1.95, IFI = 0.97, CFI = 0.94, NFI = 0.89, RMSEA = 0.049). Therefore, this model is eligible for the exploration of the complex relationship among grit, engagement and academic achievement.



Note. *p < 0.05; ***p < 0.001

CE：cognitive engagement; BE: behavioral engagement; EE: emotional engagement; SE: social engagement; THLE: trying hard to learn English; ILE: having interest in learning English; PLE: practicing a lot in order to learn English; HGLE: having goal for learning English

Figure 1: The hypothesized model of the relationship among grit, engagement and academic achievement

2.3. Path Analysis and the Mediating Effect

As shown in Table 1, grit positively predicts academic achievement in both direct and indirect ways. On one hand, grit functions as the direct antecedent of academic achievement with a path coefficient of 0.142 ($p < 0.05$). On the other hand, 95% confidence interval excludes zero, indicating that grit also exerts positive effect on academic achievement through the mediating role of learning engagement. That is, grit positively predicts English learning engagement ($\beta = 0.467$, $p < 0.001$), which in turn, positively impacts academic

achievement (β = 0.257, $p < 0.001$). Hence, the indirect path of grit→engagement→academic achievement is confirmed (β = 0.120, $p < 0.05$), with engagement partially mediating the link between grit and academic achievement at a 46% level.

Model pathways	β	95% CI
Direct effect		
Academic grit→ English learning engagement	0.467***	(0.318, 0.602)
English learning engagement→Academic achievement	0.257***	(0.132, 0.372)
Academic grit→ Academic achievement	0.142*	(0.017,0.277)
Indirect effect		
Academic grit→(English learning engagement)→ Academic achievement	0.120*	(0.067,0.203)

Note. *p < 0.05; ***p < 0.001, β: standardized path coefficient

Table 1: The model pathways of direct and indirect effects through 1000 times of bootstrapping

Therefore, by conducting a structural equation model, the current study has confirmed that academic grit serves as a facilitator for both engagement and academic achievement in a technology-enhanced learning environment, consistent with a myriad of previous studies (e.g. McClendon et al., 2017). According to Zhao et al (2023)'s findings, grittier students are self-regulated learners who are more proficient in deep learning and modifying cognitive strategies when encountering novel situations or meeting difficulties. To conquering obstacles, they devote considerable time, effort and passion engaging in the learning tasks and practicing their skills (Yoon & Kang, 2018). That might be a powerful explanation for grit's predicative role in engagement and academic achievement in the critical time of post COVID.

3. Conclusion

The current research probed into the association among EFL learners' grit, learning engagement and academic achievement in a blended English learning environment in the post-pandemic era. First, the internal framework of grit and learning engagement were conceptualized. Second, we conducted confirmatory factor analysis to ensure the reliability and validity of the revised questionnaires. Third, the hypothesized relationship among grit, engagement and academic achievement were established and explored by structural equation modelling. The results showed that grit positively predicted academic achievement with learning engagement playing the partially mediated role in the blended English learning context.

3.1. Pedagogical Implications

Pedagogical implications are also given in the present study. Grit is a malleable construct which can be developed through intelligent practice (Hellman & Gwinn, 2017). Therefore, English instructors in universities should place more emphasis on grit cultivation and employ

delicate teaching strategies, such as setting achievable goals, encouraging perseverance in long-term programs and designing interesting class activities (Guo et al., 2023) so as to help EFL learners' navigating through the disengagement and decreased learning performance aroused in the infinite post-pandemic era.

3.2. Limitations and Future Work

Despite implications, several limitations of this study need to be further clarified. First, the participants of this study were all enrolled from a Chinese telecommunication-focused university, which may limit the generalizability of the findings. Considering that individual culture may present weaker connection between grit and learning performance compared to collectivist culture (Zhao et al., 2023), the follow-up research will adopt a larger sample involving students from different cultural backgrounds. Second, the measurement of all constructs relies on self-reported survey. The further study is encouraged to utilize various methods, such as eye tracking, learning analytics data and semi-structural interviews (Kwon & Yu, 2023) to capture learners' engagement in a more accurate way.

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Developing Targeted Technology Standards for Teachers: Report on a Project for the Canadian Settlement Language Sector

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WorldCALL 2023 – CALL in Critical Times
Conference Proceedings

Abstract

We report on a project to develop technology standards specifically for English language teachers in the Canadian settlement language sector. We describe the background and the process of how the team collaborated over nine months to create and refine the standards. The seven standards each include four to eight performance indicators and are written in direct, teacher-friendly language. There are explanations and reflection questions for each performance indicator together with vignettes describing how the standards are realized in real teaching situations. We conclude by discussing progress on similar technology standards for programs and learners. The standards are being released with a CC-BY, non-commercial, share alike license so that others may use and modify them freely for their own contexts.

Keywords: Professional Development, Technology Standards, Open Access, Targeted Standards

Introduction

As we saw with the emergency remote teaching necessitated in spring of 2020, many language teachers were not prepared to shift their classes to an online format. This underscored the more general need for teachers to have better preparation in understanding and using technology for language teaching (Nozawa, 2019; Sun, 2022). Organizations such as TESOL and the International Society for Technology in Education (ISTE) have had teacher technology standards in place for many years. However, those standards were designed to be comprehensive and may not be a good fit when used in their entirety for specific contexts (Hubbard, 2021). In February 2023, the non-profit organization New Language Solutions put together a team to address this problem for one such context, the Canadian settlement language sector.

The sector is made up of adult education settings across Canada, with approximately 230 service provider organizations: school boards, community colleges, and community agencies in both rural and urban settings. The sector includes several thousand language teachers (referred to as *instructors* in official sector documents) and about 40,000 learners of English as a second language. Learners are adult newcomers to Canada who may be immigrants or refugees. Individual provinces set their own standards for language instructors. Ontario, for example, mandates a Level 2 TESL Certificate. Nationally, the governing body for adult education (Immigration, Refugees and Citizenship Canada) just requires Instructors to be trained to teach English as a second language. New Language Solutions hosts language classes on their Avenue platform as well as multiple courses to prepare instructors to teach and create material on Avenue. The plan is that the technology standards being developed for this sector will be integrated into teacher training courses.

The team included three members of the group that developed the TESOL Technology Standards (Healey et al., 2011; TESOL, 2008)–Phil Hubbard, Deborah Healey, and Greg Kessler–along with Canadian colleague Sharon Rajabi. Others centrally involved in the discussions were Rob McBride, John Allan, and Matthias Sturm from New Language Solutions. (See Figure 1, Zoom team meeting.)

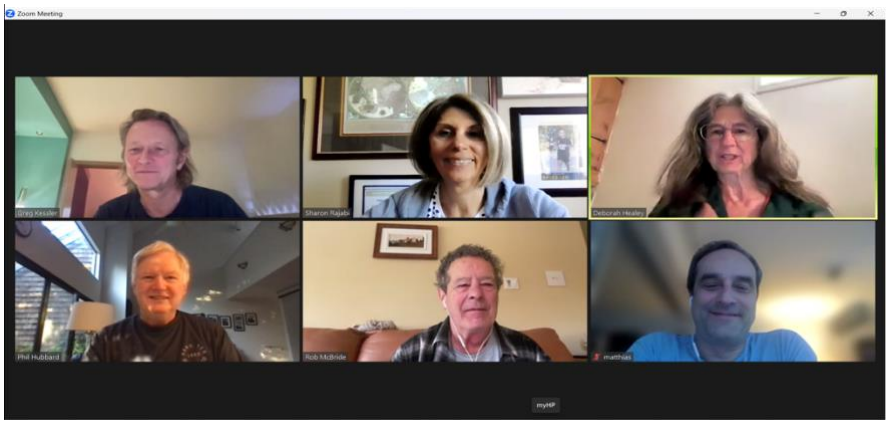

Figure 1: Technology Standards team in a Zoom meeting: (clockwise from top left) Greg Kessler, Sharon Rajabi, Deborah Healey, Matthias Sturm, Rob McBride, Phil Hubbard. Missing: John Allan

Beginning in February, the team met online every week or two, typically 90 minutes or more. By the time of the WorldCALL Conference in November, we had met more than 30 times.

While we worked individually offline some as well, the online collaborative meetings represented a large part of the total development time on the project.

Notes on the Development Process

An important goal of sharing our work at WorldCALL was to demonstrate *how* we went about creating targeted standards rather than focusing exclusively on the standards themselves. In this section, we highlight some examples to illustrate that process.

In the first few meetings, we agreed that our target should be a set of reasonable, achievable standards relevant to the sector. As the Canadian insider, Sharon was especially helpful here. We first revisited the ISTE and TESOL standards as well as other relevant sources and each generated and shared an initial list of principles. We wanted to come up with a more compact list that teachers would hopefully find manageable. We discussed these, reconciled differences, and used the results to draft an initial set of eight standards. Utilizing a "divide-and-conquer" approach, we each took two standards and expanded them with a set of provisional performance indicators (PIs). As with the TESOL technology standards, the PIs break the standard down into more detail. In following meetings, we collaboratively pared the list of standards down to seven and refined and re-refined the PIs.

To give the standards more shelf-life and reduce bias, we avoided mentioning specific technologies and apps within the standards themselves (iPad, PowerPoint, WhatsApp, etc.). The one exception is a couple of references to Avenue (https://avenue.ca) as it is the course management platform of New Language Solutions and is increasingly dominant in this sector. We also worked at making the language as direct and accessible as possible without distorting its meaning. For example, the initial Standard 2 was "Teachers are able to use technology to identify and meet current and future needs of learners and to reflect critically on this practice." This was later rewritten directly and precisely: "Understand and use a basic set of relevant technology resources and tools for language teaching and continue to update and expand this set regularly." Note, however, that we deliberately use terms such as *basic* and *relevant* without fully defining them, although we provide examples in the accompanying material. This is because even within the settlement language sector, there are a variety of contexts for which the interpretation of *basic* and *relevant* may differ.

Performance indicators went through similar shifts. For instance the general indicator, "Supporting learners' plurilinguistic and pluricultural selves," was originally under Standard 2, which is about using tools and digital resources. It was ultimately reconceptualized into the more actionable "Model equitable practices by incorporating learners' wealth of linguistic and cultural resources in technology use" and moved under Standard 4, which is about digital literacy and digital citizenship.

Another example of the development process began with the mutually agreed upon need for an overall standard, which we first labeled "Standard 0", as seen below.

Standard 0: *This is the overarching approach to the other technology standards, the fundamental standard that sets the tone for the rest*.

Implement the Technology Standards by engaging constantly in thoughtful consideration, healthy skepticism, and reflective practice, balanced by a willingness to suspend judgment and persist in the face of initial frustration.

- Be curious.
- Think about what might work; think about why it might not be a good choice.
- Try it and think about what did and didn't work.
- Give it more than one chance.

Some feedback from external sources suggested that this could be more effective if presented not as a standard but as a guiding philosophy. Eventually, it was integrated into the standards as the graphic in Figure 1.

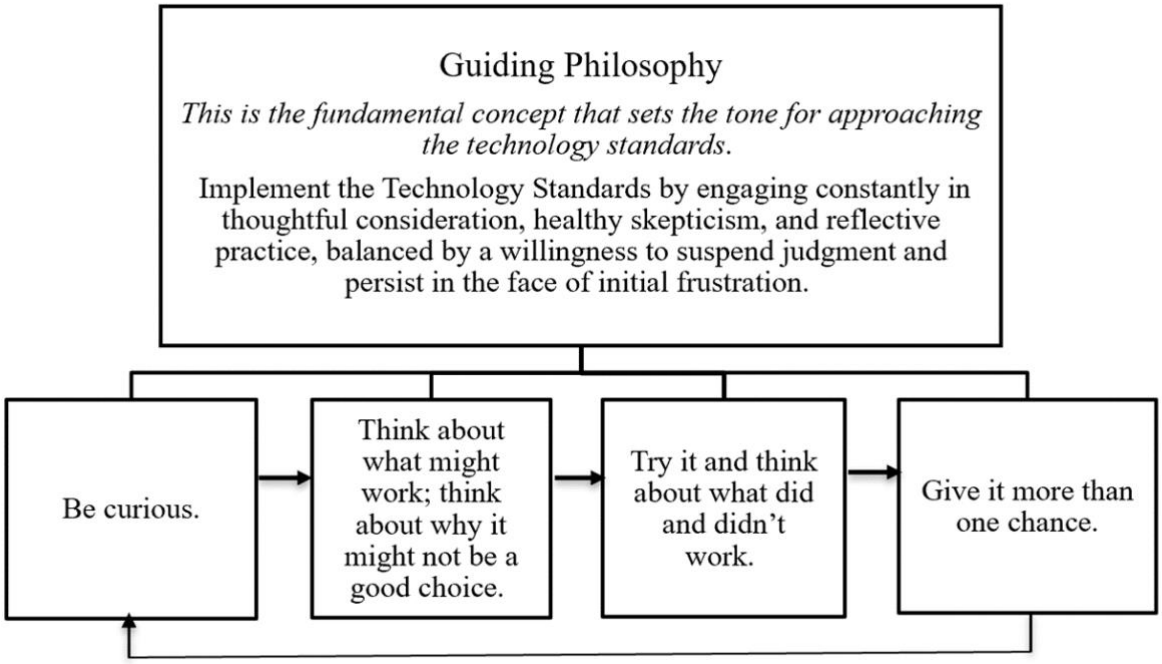

Figure 2: The guiding philosophy of the technology standards

This is just a small sample of the organic and collaborative process we used to get to the standards and performance indicators to where they are now. All of this was accomplished through shared online documents, and the majority happened in real time during our many online meetings. For those interested in developing targeted standards for their own contexts, we can tell you that a small group working collaboratively without some heavy top-down mandate is a model we would recommend from our experience.

The Product

We have discussed the process, but what about the product? The standards and the performance indicators mentioned so far are the core of that product, but there are other parts to complement them. For instance, before a brief introduction to the instructors about the standards, there are two "notes" for other stakeholders. Based on feedback from colleagues at Canadian universities involved in teacher education and from discussions with those associated with settlement sector language program administration, it became clear that we needed to explain what the standards were–and were not–intended to accomplish before we introduced them to teacher educators and administrators.

Following these introductory pieces, we have the guiding philosophy graphic and then the standards themselves. Each standard begins with a brief description of its topic followed by the standard itself. The performance indicators appear with each standard—four to eight for

each)—and there is an explanatory paragraph explaining and expanding on each performance indicator in teacher-friendly terms. This is followed by a prompt for reflection, leading instructors to make an initial connection of the standard to their own experiences.

A major challenge lies in connecting the standards to the instructors' online or blended classroom experiences. Following the model from the TESOL technology standards, we include vignettes for that purpose. A vignette is a classroom account from a teacher that demonstrates how they met specific standards and performance indicators. It personalizes the standards and makes them feel more do-able, less of a mandate from above than a recognition of what teachers already do. The vignettes cover a range of contexts: different learner proficiency levels, online and blended classes, rural and urban settings, and general, academic purposes, and specific purposes topics. To develop the vignettes, teachers first submitted brief proposals that allowed the team to make sure there was breadth in vignettes. Then, an interviewer talked with the teacher and wrote up the vignette with precis, context, goals, story, standards, and performance indicators addressed. The interviewer's draft went for initial review by the teacher and the team, then back for final review by the teacher after any edits. Having one single, experienced interviewer who collected the teacher data and then wrote up the vignette reduced teacher time and ensured consistency. We would recommend this as a process where feasible.

Overview of the Standards

In this section, we briefly present an overview of the standards. A link to the full set of standards and accompanying material is provided in the conclusion.

As noted above, there are seven standards (as opposed to 14 for the TESOL standards). This fits our goal of targeting the specific needs of the settlement language sector in Canada rather than providing expectations for ESL/EFL teachers relevant to any context worldwide. Each standard is introduced with a short description as follows:

- **Standard 1** is about using devices and systems skillfully.
- **Standard 2** is about tools and digital resources.
- **Standard 3** is about technology-enhanced pedagogy.
- **Standard 4** is about digital literacy and digital citizenship for yourself and your learners.
- **Standard 5** is about using technology to help all learners thrive.
- **Standard 6** is about communicating with learners and observing their progress.
- **Standard 7** is about establishing and maintaining professional connections online.

As an example, here is the actual Standard 3 with its six performance indicators (PIs). For the first two, we have included the explanatory text and reflection questions to show how the expanded PIs appear.

Standard 3: *This is about technology-enhanced pedagogy.*

> **Thoughtfully integrate technology in your teaching, informed by exemplary practice and relevant theory and research.**

PI 3.1. Seek out and make use of sources of exemplary practice.

Videos that demonstrate exemplary practice with technology are available online. Think about reviewing these periodically to reinforce or gain ideas, especially in relation to introducing technology to learners, sequencing steps, and modeling technology use, and helping learners consolidate ideas. Models can also demonstrate creating an environment in an online class that is as warm and welcoming as face-to-face. Peer observation can be another source of exemplary practice, especially when you share ideas and comments with your colleague afterward. Be curious; reflect; try.

Reflection: Where have you found useful videos about technology-enhanced pedagogy for online or blended environments?

PI 3.2. Stay abreast of current theory and research related to technology use.

Artificial intelligence (AI), especially related to ChatGPT, has new articles emerging now on research and classroom use. AI technology and its uses are evolving rapidly and will change teaching. Given these developments, AI is a good area to monitor carefully. Otherwise, research on technology use goes back decades, so someone has probably written about what you are trying to do. For example, computer games have been used and researched for a long time, and there are valuable and practical insights from that research. It is always a good idea to check the publication date and source for accuracy and relevance. Avenue.ca includes an annotated bibliography at https://bib.learnit2teach.ca/ with links to directly relevant theory-informed research that supports practice for the settlement sector. With resources of all kinds, be curious, read with an open mind and a critical eye, and consider just how applicable they can be in your context.

Reflection: Where do you get your information about technology for language teaching and how does it inform your practice? What are some example sources you could share with a colleague?

PI 3.3. Create technology-enhanced learning environments that provide multiple types of media and modes for learning.

PI 3.4. Use technology-enhanced active learning and task-based approaches that incorporate authentic learner experiences.

PI 3.5. Use technology tasks to build creativity, reflection, and community.

PI 3.6. Identify, adapt, and create effective prompts for generative AI.

Conclusion

This article has focused on the process we followed in creating the standards, from background material to different forms of collaboration that created the current standards document. The goal is to encourage others to use the Technology Standards for Settlement Sector Instructors as a basis and the team's process as a reference when creating their own targeted technology standards. As noted above, these standards are smaller in scale than those

from ISTE or TESOL. They represent a foundation for building exemplary practice in online and blended English language teaching, and we hope that many teachers will not only meet but exceed them, becoming models for their colleagues.

Project development has continued since the talk at WorldCALL. The team has most recently been working on a set of two to three “can-do” statements for each PI to help teachers more clearly determine whether they are meeting a given PI. Also, in conjunction with the Instructor Standards, the team has been developing Program Standards and Learner Standards for the settlement language sector. The Program Standards address collaboration, infrastructure, instructor preparation, learner support, and digital literacy for administration and staff. The Learner Standards cover knowledge and skills in using technology, appropriate use of technology, recognizing the value of technology for learning, and using technology for integration into Canadian society. The current plan is to roll out the Instructor Standards first and then to follow with the other two.

The Technology Standards for Settlement Sector Instructors are a work in progress. They are being distributed as CC BY-NC-SA: free to use and adapt non-commercially with attribution and similarly to be openly shared. We have made a recent draft available in that form at https://tinyurl.com/worldcallstds.

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The Effectiveness of ChatGPT in Enhancing English Language Proficiency and Reducing Second Language Anxiety (L2)

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Abstract

This study investigates the effectiveness of generative AI, specifically ChatGPT3.5, in enhancing interaction skills and reducing second language (L2) anxiety in English language teaching. The study is situated in the context of the rapid advancements in AI technology and its increasing significance in educational settings, particularly in computer-assisted language learning. The aim of this study is to assess the efficacy of ChatGPT3.5 in enhancing English conversational abilities and alleviating L2 anxiety, a psychological condition frequently linked to apprehension of failure and lack of self-assurance, particularly in Asian cultures like Japan. The study involved a 4-week experimental period with 31 Japanese university students who used a user-friendly cloud-based application integrating ChatGPT3.5. The application aimed to promote natural dialogue through speech recognition and text-to-speech. The students used the AI-assisted mobile application for 10 minutes daily. Additionally, 20 Japanese university students were included in the study. They also used the AI-assisted application for 10 minutes each day for four weeks. The study assessed the effects of ChatGPT 3.5 on L2 interaction skills and anxiety levels using an English proficiency test and questionnaire. The preliminary findings demonstrated a significant reduction in L2 anxiety and an improvement in English interaction skills. These results suggest that generative AI has the potential to transform language learning and offer innovative approaches to contemporary teaching methods. This study will contribute to the current foreign language teaching environment by exploring the role of AI in language learning, and also propose a new paradigm that has the potential to bring about changes in traditional teaching models.

Keywords: Artificial Intelligence, Chat GPT, Second Language Anxiety, Interaction, Long-Term Experiments

Introduction

The integral role of interaction in second language (L2) acquisition is well established in linguistic research (McCarty et al., 2017; Suzuki & Storch, 2020). Collaborative dialogue, as conceptualized by Swain (2000), is recognized for its efficacy in promoting L2 communicative competence, particularly through facilitating vocabulary and grammar acquisition. This concept resonates with the increasingly emphasized role of computer-mediated communication (CMC) in L2 pedagogy (Nguyen, 2011; Ortega, 2009), with Swain (2000) emphasizing the utility of CMC in fostering L2 collaborative interactions. Within this framework, peer interactions are instrumental in enhancing language proficiency and knowledge acquisition through appropriation, as posited by Wertsch (1988). Empirical studies further support the benefits of CMC in L2 learning (e.g., McCarty et al., 2017).

The emergence and proliferation of CMC, coupled with the challenges posed by the COVID-19 pandemic, have brought its importance to new heights, necessitating a shift to online learning environments and digital interaction. Despite the efforts of L2 educators to facilitate peer engagement during this period, student participation in CMC has been met with reluctance (Coman et al., 2020; Dhawan, 2020). This reluctance may be related to the relationship between L2 communication readiness and the frequency of interpersonal interactions (Yashima et al., 2004), with the pandemic's limitations on relationship building likely hindering student motivation.

Furthermore, studies by Krieg et al. (2019) and brain imaging research by Jeong et al. (2016) suggest that Japanese L2 learners often experience anxiety during L2 interactions, possibly due to perceived performance gaps, leading to negative self-evaluations. In this context, we propose that AI-driven interactions, as opposed to human interactions, may provide a more conducive environment for L2 learning. This hypothesis is supported by Nomura et al. (2019), who found that individuals with social anxiety preferred interactions with robots over unfamiliar humans.

Given the critical role of cooperative dialogue in L2 acquisition (Jeong et al., 2016; Suzuki & Storch, 2020), we introduce ChatGPT as a novel tool for L2 oral interaction that aims to facilitate communication between humans and AI. While ChatGPT is commonly used for text-based dialogues and some studies examined the potential of ChatGPT for L2 writing (Barrot, 2023; Hong, 2023; Warschauer et al., 2023), its potential for improving L2 oral proficiency remains underexplored. Our study aims to fill this gap by investigating the effectiveness of open-ended L2 interactions with ChatGPT in improving L2 fluency and comprehension. Our current study hypothesizes that the absence of negative feedback during interactions with ChatGPT may increase user comfort and engagement, as negative feedback has been shown to hinder L2 performance (Tsiplakides & Keramida, 2009). In addition, the accessibility and availability of ChatGPT, which can be used with their smartphones, provides users with more opportunities to practice L2 speaking skills and seek answers to questions without the constraints of time or location.

Proposed Conversation Training Tool

As shown in Figure 1, the research uses an online chat tool that manifests as a web-based application hosted on a HEROKU[1] cloud server. This tool takes the webpage form written in HTML language (Figure 2). A Python program using Flask[2] (a web application framework) is awaiting at the background, exchange all information (voice, response text, and speech logs) for all APIs. The functionality of this tool depends on the integration of the Web Speech API, a standard feature available in prominent web browsers such as Chrome, Microsoft Edge, and Safari, which most of the smartphone users installed. This API facilitates the recognition and processing of the user's speech input. When user push the “Speak start” button, tool start speech recognition and write down the recognized text to the “Recognition Result” field. The user can interrupt recognition by pushing the “Speak end” button.

Within the operational framework of the application, a total of 18 logs, covering both historical and current user interactions, are systematically collected and passed to ChatGPT via the application programming interface (API). Using this data, the ChatGPT algorithm generates a textual response based on the contextual information provided by these logs. This generated text is then sent to the Google Cloud Text-to-Speech service via its API.

Google Cloud Text-to-Speech, using advanced synthetic speech technology, converts the textual response from ChatGPT into an audio output. This audio output is then sent back to our online chat tool, where it is played back to the user and, generated text is rendered on the “Answer Result” field. This cyclical process of speech input, text generation, and audio feedback forms the core interaction mechanism of the tool, providing users with a dynamic conversational experience. Meanwhile, all information is logging with the “Username” the user input on the server using Papertrail which is one of the logging add-ons for HEROKU.

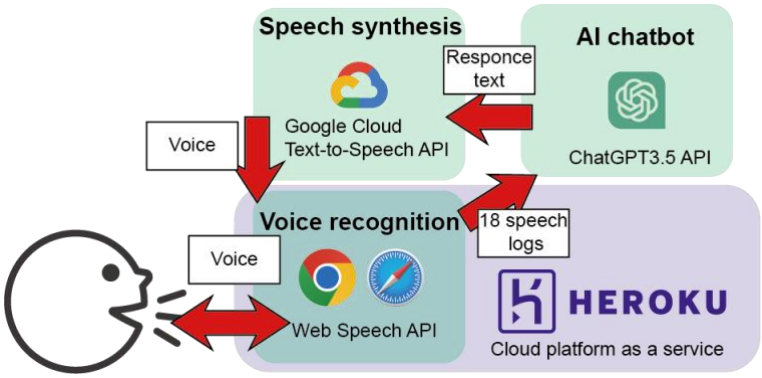


Figure 1: Conversation training tool with ChatGPT

[1] https://www.heroku.com/
[2] https://flask.palletsprojects.com/en/3.0.x/

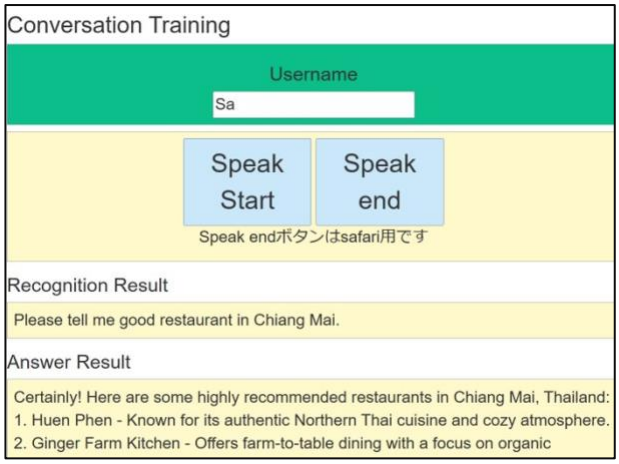


Figure 2: Conversation training tool User interface

Research

Taking into account the discussion above, this study explores the effectiveness of the ChatGPT tool to enhance L2 speaking skills and reduce L2 anxiety during interactions by comparison with non-interactive L2 activities. Furthermore, we explore the attitude shift of the subjects after using the ChatGPT tool.

Method

This study employed a longitudinal online experimental design. A sample of 31 undergraduate students in Japan was recruited to participate in the research. These participants were incentivized with a payment obtained through job-recruiting website (baitnet.jp), a job posting website tailored to university students in Japan. All applicants who viewed the job advertisement on this platform were considered for inclusion in the study.

For comparison purposes, participants were randomly assigned to one of two groups. The first group, consisting of 18 individuals, interacted with ChatGPT-based tools (experimental group), while the other group, consisting of 13 participants, interacted with YouTube (control group). The proficiency level of the participants was categorized as intermediate to upper intermediate, which corresponds to the B1-B2 level of the Common European Framework of Reference for Languages (CEFR).

This research was conducted exclusively in an online environment. Participants underwent pre- and post-intervention assessments using the L2 Speaking Anxiety Scale (Kumada & Okamura, 2017) to assess English speaking anxiety, as well as an online English speaking proficiency test (CASEC speaking test).

The experimental procedure consisted of the ChatGPT group using the tool for 10 minutes daily for twenty weekdays. They conducted interaction with the Chat GPT tool by asking some questions and listening to the responses. Conversely, the YouTube group was instructed to spend 10 minutes watching the YouTube programs they chose for the same weekdays as the first group. Therefore the activity for the second group did not entail any interactive activity. At the end of this intervention period, the participants of the both groups joined a semi-structured interview via Zoom to each individual, which lasted between 10 and 20 minutes. The data of their questionnaire and speaking test results were analyzed to verify

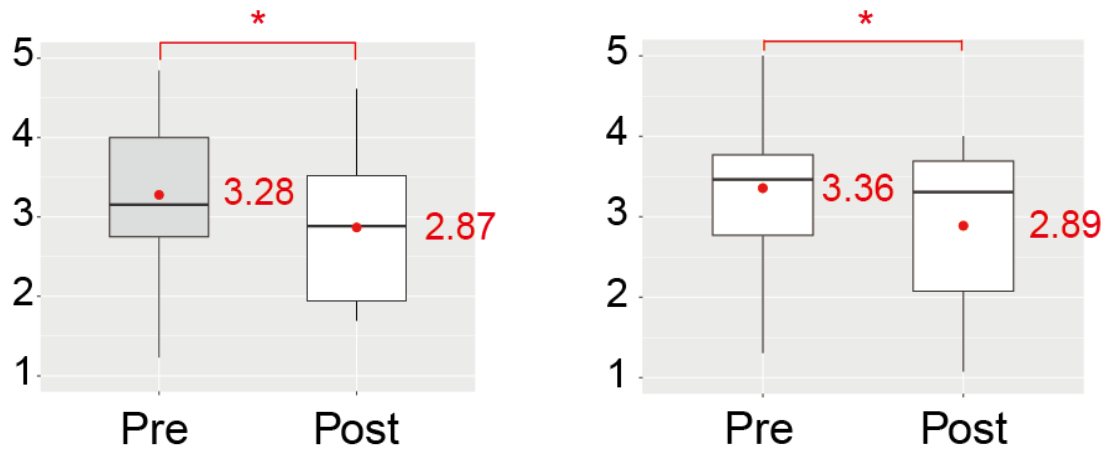
the differences between the groups. Also their interview data was also analyzed with KH conder (khcoder.net), a data-mining software.

Findings and Discussion

A paired *t*-test revealed that the L2 speaking anxiety is reduced after treatment (ChatGPT: $t(17) = 2.54\ p < .05\ d = .44$, YouTube: $t(12) = 2.71\ p < .05\ d = .46$, Figure 3). No significant difference on the speaking test scores (ChatGPT: $t(17) = 1.67\ p > .05$, YouTube: $t(12) = 0.17\ p > .05$). Two-way ANOVA for mixed design (2 groups × pre and post) showed there is no significant difference on the interaction effect (Questionnaire: $F(1,29) = 0.06\ p > .05\ \eta^2 = .00$, Online speaking test: $F(1,29) = 0.72\ p > .05\ \eta^2 = .01$).

The findings demonstrate that L2 interactions with ChatGPT and non-interactive activities with YouTube both yielded comparable outcomes in reducing L2 anxiety. The effect size, although rather small, is still larger than the appropriate effect size in CALL studies (d = 0.35) according to Plonsky (2015). However, there was no significant improvement found in the L2 speaking skills between the groups. It is possible that the treatment's impact, whether it is ChatGPT or YouTube, did not differ between the groups. This may suggest that regular L2 exposure, regardless of the level of engagement, may contribute to the reduction of speaking anxiety.

Additionally, we conducted an analysis of semi-structured interviews using text-mining software. The co-occurrence network is presented in Figure 4, Table 1 displays the most frequent words used by each group. The analyses show that the ChatGPT group is characterized by active attitudes, as indicated by the use of words such as 'speak', 'use', and 'consider'. In contrast, the YouTube group is characterized by passive attitudes towards the activity, as indicated by the use of words such as 'listen' and 'watch'. These findings suggest that interactive activities through ChatGPT may promote positive learner autonomy, in contrast to the passivity observed in participants who engaged with YouTube.



ChatGPT YouTube

Figure 3: Results of the questionnaire surveys

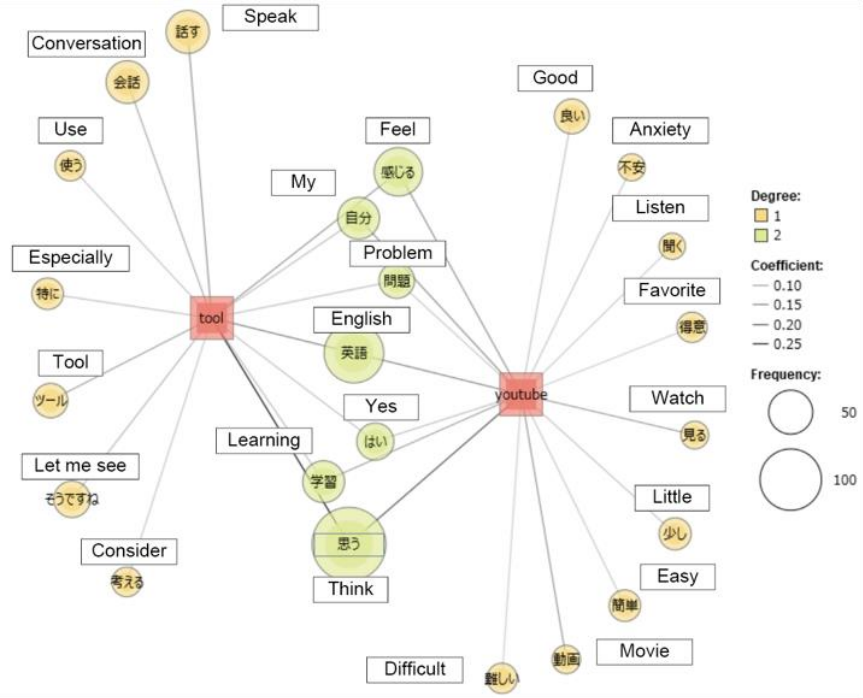


Figure 4: Co-occurrence network from interviews

Table 1: Top 10 frequent words

ChatGPT		YouTube	
think	0.282	English	0.143
speak	0.129	myself	0.134
tool	0.112	feel	0.130
conversation	0.101	video	0.124
Let me see	0.084	watch	0.115
particularly	0.072	learning	0.107
problem	0.072	yes	0.075
use	0.070	a little	0.069
consider	0.065	good	0.069
AI	0.062	anxiety	0.660

Conclusion

This study examined the possibility of utilizing ChatGPT as an L2 interlocutor to enhance listening and speaking abilities. The hypothesis was that L2 communication with ChatGPT would decrease user apprehension and naturally encourage interaction, leading to improved L2 fluency compared to the non-interactive treatment. The data suggests that L2 speaking anxiety can be reduced through a four-week intervention, pre- and post-speaking assessments, and semi-structured interviews when L2 interacts with AI via ChatGPT. Interestingly, the control group that used YouTube showed a comparable reduction in anxiety.

Further qualitative analysis through follow-up interviews revealed attitudinal differences between the groups. The study found that participants in the YouTube group had a passive approach to L2 learning activities, while those interacting with ChatGPT had a more proactive and autonomous learning attitude.

This study proposes that L2 interaction with ChatGPT has the potential to reduce L2 anxiety, foster positive and autonomous attitudes toward L2 activities, and increase opportunities for L2 interactions. The study acknowledges its limitations, but it would provide a preliminary guide for further research on AI-based L2 learning.

One of our limitations is the potential inappropriateness of the speaking test for the participants. The high mean scores suggest a ceiling effect, and the range of the speaking test for levels A1 to B1 did not match the participants' high proficiency levels of B1 to B2. Future studies should include more challenging assessments that match the participants' actual proficiency levels. Furthermore, due to the small sample size and lack of standardization across groups, it is important to exercise caution when generalizing these results. Future studies should employ a more robust research design to address these limitations.

Acknowledgements

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Note

The tool we have developed can be accessed and utilized by visiting the following URL: https://peda-chatgpt-interview.herokuapp.com/. Additionally, the application's source code is openly available on GitHub at: https://github.com/hayashik/chatgpt-conversation-training-tool.

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Assessing Online Study Abroad: Assessing Japanese University Students' Online Study Abroad and the Future of Study Abroad Post-Corona

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Abstract

This study reflects on the experiences of students and instructors on the online international exchange program at a Japanese university during the COVID-19 pandemic. Through a mixed methods approach incorporating both survey and interview data, I report on student and instructor perceptions and reflections of distance learning experiences of courses held online at a Japanese university and a university in Australia. In 2020, Japanese educational institutions suddenly faced the problem of adapting to distance learning to respond to the COVID-19 pandemic, or face suspending classes indefinitely. Implementing effective lessons, navigating student expectations and adapting to the changes in performance while negotiating with institutions became primary concerns of instructors during this challenging time. The results of the study discuss findings concerning meeting student needs, the use of distance learning during this time including the use of in-house LMSs, active learning implementation, student reactions to online study abroad, and call for additional educational resources that can support instructors in preparing, designing, and conducting online courses. Based on these reflections and analysis, I propose future suggestions for study abroad programs that incorporate online courses on a need basis. As there is an increased number of online international training programs, online internships, remote work, and online study abroad experience can be even beneficial for students. It is now time to think beyond the form of solely physical study abroad experiences. While the online study abroad program is not a replacement of a study abroad experience, it is a crucial experience for the current generation moving forward with their academic and professional career.

Keywords: Distance Learning, Teaching Approaches, Educational Technology

Introduction

The world has been reeling from the blow dealt by the COVID-19 pandemic, with Japanese universities constantly learning and relearning lessons from other countries and adapting to using new technologies, just like the rest of the world. Although Japan, at first, fared relatively well compared to other OECD countries, the makeshift response led to problems in the subsequent months (Suzuki, 2021). The climb to meet these challenges has been particularly steep in Japan, despite seemingly having the appropriate infrastructure and computer literacy to support this. Since then, many online platforms have aggressively sought ways to create technologies for education and started promoting them to educators worldwide, as well as those interested in learning online. As this global phenomenon continues, some higher education institutions are actively searching for ways to provide students with international education with English language online.

Experience With Online Education

2020 was a moment in time that placed educators in a pivotal position, demanding the acquisition of new skills and adapting to a new normal in online education. Online education can be an effective way of learning through many different formats, such as Massive Open Online Courses (MOOCs), online courses held with video conferencing tools such as Google Meet, Skype, or Zoom, completing learning activities online through companion sites such as khanacademy.org, or distance learning, which involves interaction between instructors and learners and opportunities for timely feedback (Tsai & Machado, 2002). Despite people and educators often conflating these terms, distance learning (遠隔授業 enkaku jugyō) was used to reference the adaptation of colleges and universities in response to the COVID-19 pandemic. However, as seen before, teachers and students who have had little experience with any type of learning conducted online face many challenges. According to the OECD 2019 report concerning educators' confidence in teaching students using technology, Japanese high school teachers were one of the lowest-ranked populations (OECD, 2019). Furthermore, use of technology at the university level has been inconsistent in many ways, with implementation being limited to superficial technologies such as bulletin boards for posting syllabus information, as opposed to other countries which utilize learning management systems, digital textbooks and material creation online (Funamori, 2017). These factors placed Japan and their students in a perilous position in which to meet the moment and join the world in adapting to a new educational landscape.

Instructors

As seen in the OECD report above, many teachers expressed having little experience with online education, either as a teacher or a student, so making the sudden transition to online teaching may have been more difficult than for those who have had experience with it in university or in compulsory education. In some cases, the onset of the COVID-19 pandemic was the first time that instructors were forced to interact with these systems (O'Donoghue, 2020), and were tasked with not only using new systems, but also adapting existing materials to a new learning technology, which some were experiencing for the first time with little support.

Students

Students also have difficulty with the sudden acceptance of technology. Not only the transition from using technology in the classroom, which itself is a shift from what is considered the norm of the classroom - usually students are not allowed to use computers in the classroom unless it is strictly part of the content of the class. Furthermore, computer usage is not normalized in high school classrooms. During lectures, using a computer to take detailed notes is not viewed as a typical practice. There is evidence that taking notes with laptops is detrimental (Mueller & Oppenheimer, 2014; Sana, Weston, & Cepeda, 2013), but this is not conclusive, with more recent studies challenging this assumption (Morehead, Dunlosky & Rawson, 2019). However, this is one instance of the reluctance of integrating technology that may have affected the acceptance of technology in classrooms in Japan.

Perceptions of technology in the classroom. Due to the traditional format of Japanese lessons being a one-way, lecture-based approach, and the perception of technology being an impediment to learning, partially informed by research (Mueller & Oppenheimer, 2014), and partially by the tendency to protect the status quo, there has been little success in implementing edtech (educational technology) into the classroom in a meaningful way. Therefore, this study focused on exploring the response of instructors and what we can learn for greater technology implementation in the future.

Method

The participants were university faculty from a Japanese university who taught at the university, junior college, and/or graduate level. A survey was first conducted with 37 participants, and a follow-up semi-structured interview was conducted with 7 participants during February and March 2021. This research interviewed both full-time tenured and non-tenured staff, as well as part-time staff: I will refer to the participants as “instructors”. The survey and interviews investigated students’ general reactions to the use of technology for distance learning, and interviews asked students’ reactions after the online study abroad experience.

Instructor Survey & Interviews

The survey was distributed in both English and Japanese. Editing was done by native speakers of both languages to ensure the accuracy and validity of the survey questions. The survey was distributed through email, and conducted on Google Forms. Follow-up interviews were conducted with volunteers in the language of their preference, and semi-structured interviews were conducted. These semi-structured interviews were transcribed and coded according to relevant themes in English or Japanese. This research focuses on the results of the qualitative interviews, with survey results giving context to the general background of the university instructors’ situation during the first year of the COVID-19 pandemic. Coding and theme creation were conducted by the main researcher during analysis of the interview transcription.

Student Reflections

Study abroad was a crucial component of students’ education in this institution, and students were able to participate in distance learning in institutions that shared the same time zone as Japan, located in Oceania (Australia) and Southeast Asia (The Philippines). Student

reflections were collected after a period of 2-3 months of online study abroad after their *return* to normal classes as part of the study abroad program. These reflections were required to be written in English, and asked students to share their experiences and impressions of their study abroad. 59 responses were coded thematically and the main findings are shared below.

Results & Discussion

These are the most relevant results of the instructor survey (Table 1.1) which are relevant to the themes discovered in the research. The themes will be discussed below.

Table 1.1: Selected Survey Answers – Instructors

Question		Variables	N=37
Before introducing distance learning, how familiar were you with the following technology?	Skype/Zoom	Used Daily	1
		Used Frequently	8
		Used Rarely	14
		Never Used	14
	Learning Management Systems	Used Daily	8
		Used Frequently	8
		Used Rarely	14
		Never Used	7
Which aspect of technology use was the most challenging?	Learning how to use software such as ZOOM, LMS, PowerPoint	Very challenging	1
		Challenging	6
		Slightly challenging	15
		Not at all challenging	13
	How to adapt active learning activities to distance learning	Very challenging	6
		Challenging	11
		Slightly challenging	15
		Not at all challenging	4
How much additional guidance did students need?		(Less than usual) 1	1
		2	1
		3	15
		4	10
		(More than usual) 5	8
How well did students adapt to distance learning?		(Adapted poorly) 1	1
		2	5
		3	5
		4	20
		(Adapted well) 5	4

The results of the survey showed several informative results which were coded and organized into several categories. The surveys showed that instructors had little experience with online teaching tools, with 75% of respondents answering that they had little (14) to no experience (14) using online tools such as Zoom or Skype, and nearly 20% (7) of instructors indicating they had no experience with using LMS in their classes before the COVID-19 pandemic measures were taken. participants have expressed doubts about using online platforms for study abroad, however, they learned a lot from their experience.

Participants also claimed that adapting active learning approaches for their students using online tools was one of the most challenging aspects of the transition to online teaching, with 45% of those surveyed answering challenging (11) or very challenging (6). Through additional questions and conversations in the qualitative interviews, additional details and common difficulties were discovered. The results of student reflections showed that although students did not have high expectations for their study abroad experience at the beginning, many students did find benefits from the experience. These themes included a lack of motivation ("Unmotivated"), a belief that this experience was inauthentic compared to the real thing ("Not the real thing"), but that there were still benefits to be had ("Making the most of it"). Select quotes are featured in Table 1.2.

Findings from these reflections suggested that online study abroad is not a substitute for students, but not that it is without merit. Students were mostly surprised by the learning they were able to accomplish, and made progress in their language abilities. However, this was not comparable to the progress they would have made if they had been able to go abroad, but this could be considered not as an adequate alternative, but as an addendum to a F2F study abroad, for follow-up experiences or even internships that could be extended into a F2F internship.

Table 1.2: Focal Student Reflections

Reflections Themes	
Unmotivated	"I was suspicious of the program's effect before it was commenced to be honest."
	"To be honest, I had little motivation at the beginning of this program and was very sad to have replaced the planned study abroad program."
	"At first my motivation was…not good…I thought it was not enough experience."
Not the real thing	"I thought that taking a foreign class online is no different from taking a class at [our] University."
	"…at first, I found studying abroad online to be a hassle…I thought I wouldn't get anything if I stayed on."
Making the Most out of it	"...Although it was not the same, there were many chances to be active and improve my English..."
	" [it was] hard to communicate on Zoom...but more benefits than I thought."
	"However, in order for this experience to be successful as a result... I started to set my own goals for the day. For example, I have to speak three times a day in class...Setting these goals has been very motivating for me."

Improving Assessment

We need to go beyond the discussion of merits and demerits, advantages and disadvantages of online study abroad. As there will always be a debate between in-person and online learning experiences, with different circumstances, it becomes necessary to give more weight to the experience students will take away from their chosen learning environments. Students should be provided with opportunities to articulate their experience of, what they learned, and how they would evaluate their performance in different mediums and environments. These evaluations should include portfolios, journals, and reflective narratives to assess study abroad experience. Currently, there are a lack of methods of assessment, reflections, and how we can translate study abroad experiences into tangible outcomes. As instructors and administrators of a study abroad program, it is important to develop a systematic way of evaluating student experience. This does not simply mean assessing students' linguistic output or uptake of specific vocabulary items. One of the ways to assess student performances more holistically is to include students' reflections on key moments experienced during the online study abroad.

Just like the physical study abroad, there are a wide range of experiences students can learn from exposure to foreign language and culture in an online learning situation. Introducing different assessment areas such as flexibility, autonomy, adaptability, and spontaneity, which are qualities that study abroad programs value. Flexibility and adaptability could be assessed by the degree to which students adapt to working with other student groups from different backgrounds, or elaborating on the challenges that they met in the online space with differences in class structure, participation, or other measures. This could be assessed through group interviews post-study abroad, reflection essays, or post-study abroad presentations and portfolio creation (Lam, Lau & Wong, 2023). Spontaneity and adaptability are measures that could be evaluated by actions taken by students when unexpected difficulties arise, such as technical issues, or cultural challenges overcome by negotiation and cooperation in a digital environment.

Furthermore, with teleworking becoming increasingly common, working and learning through online environments will be more common for study abroad program designers to incorporate into these experiences, and with these innovations, new assessments will be needed. Study abroad programs will need to adopt reflective narratives for students to create portfolios of their experiences, focusing on the use of technologies including evaluating the usability of various digital platforms in online education, and thinking about future technologies for communication. Students can create their own web-based portfolios to help build their online presence during this study abroad program, with a focus on effective and ethical online communication through websites, web-based portfolios, and thinking about future use of technologies, they can discuss how these technologies helped them, how it shaped their perspectives, and perceptions of international communication online. Although there will always be the perception that online study abroad program does not achieve what a physical study abroad experience does, if we can set goals specifically designed for online learning, we can achieve educational goals that are useful to students in the future of distance learning and telework.

Conclusion

In closing, educational institutions must now prepare for the future of online education, not only in Japan, but across the globe. As online education has suddenly been thrust into the laps

of students and teachers, it is now time to make online exchanges between institutions not just a substitute for study abroad, but a regular occurrence. Collaboration and professional development across institutions is now more possible than ever, thanks in part to the measures taken to bring distance learning to the forefront of education. While there is pressure to go back to the teaching practices during pre-COVID-19, education must embrace the new normal, and make connections locally and globally.

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Empowering English Language Teachers to Use Immersive Virtual Reality for Global Citizenship Education

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Abstract

The threat of climate change to our planet has made addressing environmental issues a global educational priority, encompassing various subjects and school levels in numerous countries, including Germany. As a result, English teachers are required to promote English language skills and global citizenship education (GCE) in their classrooms. Several studies have illustrated that immersive virtual reality (iVR) learning environments can promote language learning and pro-environmental behaviour. Thus, there is a strong case for using iVR in the context of GCE and English language education. However, iVR technology is not yet widely used in Germany, and therefore, teachers lack the necessary skills to use it efficiently. Consequently, as part of the DiSo-SGW project, we aim to develop, test, and implement research-based teacher training modules, focusing on empowering English language teachers to use iVR for GCE. This paper provides an overview of the DiSo-SGW project, outlining how we aim to innovate teacher education through research-based teacher training programs focusing on integrating iVR and global learning in English teacher education.

Keywords: Immersive Virtual Reality, Digital Literacy, Digital Sovereignty, Global Citizenship Education, Sustainable Development Goals, English Language Education, Teacher Education

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Introduction

Climate change poses a significant threat to our planet which is why tackling environmental issues has become a global educational goal across various subjects and school levels in numerous countries (e.g., the United Nations 2015 Sustainable Development Goals (SDGs)). In Germany, global citizenship education (GCE) is a central learning objective that spans all subjects (Nationale Plattform BNE 2017). Hence, teachers of English must find a way to integrate environmental issues into language-related tasks. Various studies have demonstrated that immersive virtual reality (iVR) holds significant potential for language learning (Dhimolea et al. 2022) and pro-environmental behaviour (Ahn et al. 2015; Bailey et al. 2015; Fonseca and Kraus 2016; Scurati et al. 2021). However, teachers in Germany lack experience with iVR due to the currently limited availability of this technology. Furthermore, the COVID-19 pandemic has emphasised the importance of teachers and learners being proficient in using digital tools, particularly those which have great potential for enhancing learning experiences, such as iVR. Addressing this issue is one of the key goals of the DiSo-SGW project, which aims to develop, evaluate, and disseminate evidence-based teacher training modules which aim to foster English teachers' digital literacy in using iVR for language learning and GCE (UNESCO 2014). This paper seeks to provide an overview of the DiSo-SGW project, followed by a definition of important terminology specific to this project, a detailed project description, and an outlook on future steps.

1. Competence Network on Digital Learning: The Project Diso-SGW

The project presented here is part of a large competence network in Germany called *lernen:digital*. It draws on the expertise of around 200 research projects and aims to develop evidence-based materials and concepts for school development in the digital age. One main objective is to facilitate the exchange between academia and practice for the digital transformation of schools. The long-term goal is to develop research-based teacher training modules that will be made available as open educational resources across Germany. The competence network *lernen:digital* consists of four competence centres: 1) STEM (i.e. Science, Technology, Engineering, and Mathematics), 2) Languages, Social Sciences, and Economics, 3) Music, Physical Education, Art, and 4) School Development. In addition, a transfer office of the competence network acts as an interface. Supported by the European Union (NextGenerationEU) and funded by the German Federal Ministry of Education and Research, the project will run for 31 months from June 2023 to December 2025.

The second competence centre (Languages, Social Sciences, and Economics) comprises six projects. One of these is DiSo-SGW, which stands for *Digitale Souveränität als Ziel wegweisender Lehrer:innenbildung für Sprachen, Gesellschafts- und Wirtschaftswissenschaften in der digitalen Welt* ("Digital sovereignty as a goal of pioneering teacher training for languages, social and economic sciences in the digital world"). It is an interdisciplinary project that focuses on the main school subjects of the respective competence centre. The project consortium DiSo-SGW, which was submitted by Jörn Brüggemann and Theresa Summer in early 2023, is funded with 6.2 million Euros. It involves research institutes and 13 universities, working together on an evidence-based development, evaluation, and implementation of teacher training modules. Guided by the principles of general and subject-specific digital sovereignty or literacy (see Sect. 3), these training modules aim to support teachers in developing their digital competence.

2. Terminology: Digital Sovereignty, Literacies, and Competence

The term *digital sovereignty* used in the German project title (and translated verbatim here) refers to "the sum of all abilities and possibilities of individuals and institutions to fulfil their role(s) in the digital world independently, self-determined and securely in the digital world" (Goldacker 2017:3 own transl.). For individuals, digital sovereignty encompasses three aspects: 1) use (using digital technology and data securely and efficiently to achieve specific goals), 2) data (making informed decisions about personal data and the right to access information from digital sources), and 3) societal impact (understanding and participating in shaping the impact of digitalisation on society), (Goldacker 2017:7 own transl.). Digital sovereignty thus refers to an individual's ability to have control over their digital presence including their ability to make informed decisions about personal data, the use of digital resources and the assessment of their credibility. The term *digital sovereignty*, which extends to an individual's participation in society and is therefore more general, is not widely used in English academic literature. Instead, researchers and practitioners refer to digital competence or digital literacies. Pegrum et al. (2022:3) define the term *digital literacies* as follows: "the individual and social skills needed to effectively manage meaning in an era of digitally networked, often blended, communication." In their framework Digital Literacies 3.0, they group digital literacies into four domains: communicating, informing, collaborating, and (re)designing (Pegrum et al. 2022:10). This is similar to the outline of digital competence in the *European Framework for the Digital Competence of Educators* (DigCompEdu), which categorises learners' digital competences as follows: information and media literacy, communication, content creation, responsible use, and problem solving (European Commission et al. 2017). For the development of educators' digital competence, six areas are listed, including 22 fundamental competences. A summary of the six areas is given below:

1: Concerns educators' broader professional development including their use of digital technologies for professional interactions and individual development, and organizational benefits.
2: Focuses on competences for effectively and responsibly using, creating, and sharing digital learning resources.
3: Dedicates to managing and coordinating the use of digital technologies in teaching and learning.
4: Addresses the use of digital strategies to enhance assessment.
5: Emphasizes the potential of digital technologies for learner-centered teaching and learning strategies.
6: Specifies pedagogic competences needed to enhance learners' digital competence. (Based on European Commission et al. 2017:9)

These areas of digital competence play a role in our project, which will be described in the following section.

3. The Project DiSo-SGW in Bamberg: IVR and GCE in English Language Education

Our project is part of the foreign language education consortium in which we are collaborating with the Universities of Bremen (Andreas Grünewald and Leona Droste) and Würzburg (Maria Eisenmann and Jeanine Steinbock). While the research team in Bremen focuses on the use of artificial intelligence in French language education, the team in Würzburg investigates iVR with a focus on inter- and transcultural learning in English classrooms.

In our project, we aim to develop, test, and implement research-based teacher training programs empowering teachers in utilizing iVR to enhance their students' English language skills and GCE. Environmental issues were chosen as a thematic focus due to three reasons: the recognition of climate change as a major threat, the integration of environmental issues and in curricula on a national and global level, and the significant engagement of young people, as seen in movements like Fridays for Future, highlighting the urgency of addressing these topics in all classrooms. Consequently, a key aim is for teachers to link the teaching of English and language-related tasks with global issues (e.g., environmental issues, sustainability, and social justice).

Through her model of education for sustainable development in English language education, Surkamp (2022:36) demonstrates that learners can enhance their receptive, lexical, and critical thinking skills by engaging with sustainability topics presented in diverse media and texts, which provide multiple perspectives. This engagement with diverse media and texts can equip learners with the necessary skills and knowledge to analyse and critically reflect on global issues and discourses, and raise awareness about the power of language and other media with regard to shaping discourses (Surkamp 2022:36). In addition, learners can practice their productive skills by actively participating in global discourses on environmental issues using English as a lingua franca, negotiating sustainability issues in interactions with others, and communicating effectively to contribute to changes in various societal, political, economic, and ecological domains on a local, regional, and global level (Surkamp 2022:36). By engaging with different texts and media, learners should learn about the interrelated nature of global issues and thus learn to perceive themselves as global citizens and recognise their responsibility to the global community beyond the borders of their nation states. Hence, in line with UNESCO's framework of GCE, learners should develop the necessary cognitive, socio-emotional, and behavioural competencies "to become proactive contributors to a more just, peaceful, tolerant, inclusive, secure and sustainable world" (UNESCO 2014:15).

The digital tool in focus of our project is immersive virtual reality, a term subject to diverse definitions by researchers, as noted by Motejlek and Alpay (2021:3). We draw on Mikropoulos and Natsis' (2011) definition, according to which virtual reality refers to "a mosaic of technologies that support the creation of synthetic, highly interactive three dimensional (3D) spatial environments that represent real or non-real situations." These 3D environments are accessible through various devices, including desktop computers, head-mounted displays (HMD), or cave automatic virtual environments (Buttussi and Chittaro 2018). Researchers usually distinguish between virtual reality environments accessed by computer desktops, also called low-immersion virtual reality (LiVR) (Kaplan-Rakowski and Gruber 2019) or desktop virtual reality (dVR) (Wu, Yu, and Gu 2020), and those accessed by head-mounted displays (called either immersive virtual reality (iVR) or high-immersion virtual reality (HiVR) (Kaplan-Rakowski and Gruber 2019). The degree of immersion acts as an objective criterion for assessing the lifelikeness of an experience within a system and its effectiveness in isolating the user from the external surroundings (Cummings and Bailenson 2016). In our project, we focus on immersive virtual reality (iVR), i.e. virtual reality accessed through HMDs, as this type of technology provides an entirely different learning experience than a 2D desktop, and studies have shown that iVR can be beneficial for language learning (e.g., Dhimolea et al. 2022) and pro-environmental behaviour (Ahn et al. 2015; Bailey et al. 2015; Fonseca and Kraus 2016; Scurati et al. 2021). With regard to hardware, Pico 4 and Meta Quest 3 headsets will be used for the teacher training modules. This decision was informed by their cost-effectiveness and current prevalent usage in German schools that possess virtual reality headsets. Regarding the software, the selection process relies on

available options in the Meta and Pico app stores, and on a framework for the evaluation, and creation of iVR learning environments that will be published soon.

As a methodological framework, we employ a design-based research approach (based on McKenney and Reeves 2019) for the development of the teacher training modules including five stages:

1) An analysis of the state of the art
2) The design of the teacher training modules
3) The evaluation of the teacher training modules through questionnaires and interviews
4) A further adjustment and refinement of the teacher training modules based on their evaluation
5) The implementation and dissemination of the teacher training modules

At present, our project is situated within its initial stage, involving an analysis of the existing demand for teacher training modules concerning iVR and GCE. This phase encompasses selecting existing iVR applications suitable for language learning and GCE, coupled with an examination of essential characteristics of effective teacher training modules. Currently, there are few teacher training courses available on iVR in foreign language education in Germany, hence we aim to fill this gap. When designing the teacher training modules, we will focus on four of the above-mentioned areas of digital competence (European Commission et al. 2017:9). As the DigCompEdu illustrates, digital competence includes competences for effectively and responsibly using, creating, and sharing digital learning resources (area 2), which means that teacher training modules should not only enable teachers to use existing iVR applications for language learning and GCE (e.g. *Immerse*, *ImmerseMe*, *Be Earth*, *Ecospheres*) but also teach educators how to create their own iVR learning environments. Given the constraints faced by language teachers in dedicating time to learn complex tools such as Unity or Unreal Engine for iVR environment design, we will focus on instructing them in the use of user-friendly authoring software, including Mozilla Hubs, Spatial, and AR2VR. This strategic approach to empowerment enables educators to develop their iVR learning environments and guide their learners in creating personalized iVR environments aligned with individual interests (areas 5 and 6). Moreover, the teacher training modules will encompass guidance on the utilization, administration, and coordination of iVR headsets for instructional purposes (area 3). Additionally, a critical examination of the messages conveyed through the iVR learning apps and environments and the personal data that the headsets and apps require will be integrated into the modules, aligning with the objective of cultivating teachers' digital sovereignty, as defined by Goldacker (2017).

4. Conclusion and Future Outlook

In her keynote on "Why Theory Matters: Conceptualizing CALL" at the WorldCALL conference (2023), Hampel referred to ten "What If?" questions (Hampel 2019:101–9; in response to Larsen-Freeman and Cameron 2008:9–11) directing the listeners' attention to the following currently highly relevant question: "What if learning a language is not only about learning conventions but also about innovation and creation?" (2019: 105). In the context of our project, this question is of central importance as we aim to explore the potential of iVR for teacher education in the context of GCE. The project's next steps involve publishing a framework for evaluating and creating iVR learning environments for GCE. This framework will serve as a guideline for teachers, policymakers and software developers, and it will provide a starting point for the development of the teacher training modules. Following this,

we will design, pilot, evaluate, and adjust teacher training modules. Finally, we aim to disseminate these modules as open educational resources.

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English Medium Instruction on Spatial as a Virtual Reality Classroom

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Abstract

As a result of growing Artificial Intelligence technologies, many immersive Metaverse platforms have emerged for various purposes including teaching and learning. Although many studies have explored the use of immersive Virtual Reality (VR) platforms in university courses, little research on the application of these digital tools at English Medium Instruction (EMI) Higher Education institutions in Hong Kong has been conducted. Therefore, this paper aims to investigate the teacher and student perceptions about the effectiveness of EMI in the Metaverse supported by Spatial, an immersive VR platform. Twenty non-English-speaking university students from diverse academic backgrounds were invited to two-hour virtual classes and evaluating the effectiveness of EMI on Spatial by responding to the 5-point Likert Scale survey and the Spatial platform and a follow-up focus-group interview. The teacher also shared the teaching reflection on VR classes based on classroom observation notes. The responses of the students show that VR classes on Spatial can be more engaging than Zoom sessions in terms of motivating and facilitating and classroom interaction and communication, but they were still very different from face-to-face classes. The platform could also support the effective delivery of lessons about interesting cultural topics and allowed the teacher to provide students with adequate learning support. According to the teacher, although the classes seemed to be smoothly run, in immediate feedback provision and classroom management were sometimes difficult as the teacher could not supervise all students at the same time while they were navigating freely through different 3D portals.

Keywords: Virtual Reality, English Medium Instruction, Spatial, Hong Kong

Introduction

The invention and growth of the Internet and Web 2.0 technologies in the 1990s enabled the implementation of online and remote education worldwide (Davies, Otto, & Ruschoff, 2013; Zawacki-Richter & Jung, 2023). Despite the contrasting findings about the effectiveness of this nontraditional instruction mode across the literature (Coman et al., 2020; Kemp & Grieve, 2014; Miao & Ma, 2022; Nasution, 2021; Rojas, 2023; Shea et al., 2015), it has been an alternative to face-to-face classrooms since the Covid-19 pandemic happened in 2020 (Zawacki-Richter & Jung, 2023). Hong Kong Higher Education (HE) institutions even adopted online teaching and learning even sooner because of the late 2019 political movement in the city (Yeung & Yao, 2021). However, it posed a challenge to many Hong Kong HE teachers, who had to deliver supposedly face-to-face courses on virtual learning with little online teaching experience (Moorhouse & Wong, 2022). Although some teachers adapted their pedagogy to be effective online educators and held positive perceptions about Zoom (a virtual learning platform) classes (Kohnke, 2022; Moorhouse & Wong, 2022; Xina, 2022), problems including limited classroom interaction, student distraction, ineffective knowledge delivery and acquisition, delayed feedback, and inadequate technical support still existed (Fung, 2022; Wang & Li, 2022; Yeung & Yao, 2021; Xina, 2022). As the unpredictable pandemic situations could not promise the resumption of face-to-face learning, some teachers considered other e-learning options that could offer the closest-to-real classrooms. Classes on the Metaverse, supported by VR platforms, were hence piloted in the hope of increasing student learning motivation and alleviating their "Zoom fatigue syndrome". Many studies have shown that VR learning could boost student motivation and engagement, classroom interaction and communication, and student learning outcomes (Makransky et al., 2019; Makransky & Lilleholt, 2018) while some revealed insignificant differences in the effectiveness between VR and other online learning platforms (Leder et al., 2019; Sacks et al., 2013). Parong and Mayer (2018) even ascertained that VR platforms negatively affected teaching and learning qualities. However, few of these scholarly works addressed the Hong Kong HE context, where many students can be introverted and passive learners who struggle to study in EMI institutions because of the lack of second language proficiency (Yeung & Yao, 2021). To fill this research gap, this paper examines the teacher and learner experiences on Spatial, a VR platform supporting immersive learning experiences, at Hong Kong tertiary institutions. Specifically, the paper will answer the following questions:

1. What are the perceptions of Hong Kong university teachers and students about teaching and learning on Spatial?
2. Can the teacher effectively deliver quality lessons to students through the VR platform?

Research Methods

To ensure the validity of research data and the reliability of research results, a triangulated empirical study was conducted using a survey, focus-group interview, and teaching reflection. One teacher and twenty students from undergraduate and graduate Teacher Education programs of a public university in Hong Kong were invited to participate in the study. Despite different levels of English proficiency, all students should have basic computer skills to participate in virtual classes. To avoid potential technical problems, a Spatial Guidebook with the account and avatar setup instructions and basic navigation steps on the platform was sent to the students before the classes. Since the students have conflicting study schedules, not all of them could attend the same class. The teacher was requested to conduct two VR

classes, each with ten students, about World Cultures, an optional non-credit workshop series as part of the Informal University English Curriculum that aims to provide lower-level students with language support and intercultural knowledge.

The VR classes were designed based on the Sociocultural Theory (Vygotsky, 1978) and Task-based Instruction Approach with various scaffolding tasks and activities in different Spatial portals. The learning activity in each portal has a different level of difficulty and a learning task which can be performed on the 3D space or a separate worksheet. The students would begin the lesson at the portal with the easiest task and be directed to a more difficult one in another portal upon completion to ensure they would achieve their learning goals according to the Zone of Proximal Development. The Sociocultural Theory also suggests that the learning process of students is also involved in social interactions, so the given tasks and activities aimed to maximize collaborative learning, specifically by providing the students with peer scaffolding and peer feedback opportunities. While delivering the lessons, the teacher was also observing the student responses to and participation in the learning tasks and taking observation notes. Upon completing the classes, the teacher wrote a teaching reflection based on the notes while the students evaluated the quality of the lessons using a 5-point Likert scale questionnaire and participated in a follow-up focus group interview with the researcher. The teacher reflection and student responses to the interview and online questionnaires were then used for data analysis.

Findings

Online Questionnaire

Variables	Mean	SD
(1) The lesson was well-organized and prepared, and the teacher's instruction was clear.	4.82	.40
(2) My communication and interaction during the class was effective.	4.45	.52
(3) My learning interest was stimulated.	4.45	.52
(4) My learning needs were effectively addressed during the lesson.	4.45	.69
(5) was actively engaged in the learning tasks.	4.64	.50
(6) The representation of visual aids on the Spatial platform was effective.	4.64	.50
(7) The teaching and learning activities helped improve my learning performance.	4.36	.81
(8) There was no difference between learning on Spatial and face-to-face.	4.64	1.03
(9) The platform designs were suitable for the lesson content.	4.45	.69
Overall Mean	4.43	

Table 1: *Student evaluation of VR classes on Spatial*

Table 1 represents the student evaluation of the VR classes on Spatial. The overall mean of all statements is 4.43. The mean and standard deviation of statement (8) were the lowest (M=3.64) and highest (SD=1.03), respectively. This implies diverse opinions on the instruction platform, with fewer students believing VR and face-to-face classes provided the same experience. Whereas statement (1) had the most positive rating with the highest mean (M=4.82) and lowest standard deviation (SD=0.4), followed by statements (3) and (5) with

M= 4.64, and (2) and (4) with M=4.45. However, the mean of statement (7) is only 4.36, lower than the overall mean.

Focus Group Interview

Significant and repeated information in the student responses to open-ended questions during the focus group interview was doubled-coded for an in-depth understanding of learner experiences and perceptions about VR classes on Spatial. There emerged seven inductive themes including (1) the quality of the lesson and teacher instruction, (2) student learning interest, (3) student engagement, (4) classroom interaction and communication, (5) independent learning, (6) future application of Spatial for career purposes, and (7) learning difficulties. Most of them overlapped with the pre-determined variables in the online questionnaire.

Aligning with the online questionnaire results, the students showed optimistic views about themes (1), (2), and (3). All of them stated that the teacher delivered the lessons in an organized way using simple language and suitable learning activities, which made the instruction easy to follow. The technical design of Spatial effectively supported the representation of vivid visual aids and multimedia, making the lessons engaging and stimulating the learners' interests. "I hated Zoom lessons, but this platform changed my mind a bit about virtual learning. Longer hour classes may be more interesting if taught here", said one student. Another student shared "I usually just sat there and listened to the teacher talking on Zoom for the whole time, but this platform allowed me to move around the 3D space and do different tasks." However, when asked about theme (4), some students said it was far from being real because the avatars of Spatial users could not replace actual body language in face-to-face communication although some felt less shy to socialize through the avatars.

Themes (5), (6), and (7) which online questionnaire overlooked, emerged with new implications. Several students believed their independent learning skills were improved as they just needed to read the teacher's instructions and walk around the virtual space to work on the tasks with minimal teacher supervision. Nevertheless, the teacher-student communication was not interrupted as the teacher was still present to provide timely support, and all classroom participants could discuss and share about their work upon completing the tasks. Interestingly, some students said they may use Spatial to create a student-centered online classroom in their future teaching since most of them are pre-service teachers. However, some students were skeptical about this idea as not all topics and subject matter could be taught on VR platforms. Despite the overall positive perceptions, there were some challenges that the students faced during their learning process. Some students stated the Spatial Guidebook was useful for technical setup, but sometimes they were distracted from learning activities while roaming the large 3D space.

Teaching Reflection

While the online questionnaire and focus group interview inform the effectiveness of learning on the platform from the students' perspectives, the similar process of coding data from classroom observation notes and teaching reflection revealed the teacher perceptions. Most of the following themes of (1) technology-mediated pedagogy and (2) student engagement, (3) personalized learning environment, (4) lesson preparation, (5) classroom management, and (6) immediate feedback provision newly emerged except for (2).

From the teacher's perspective, Spatial could create student-centered virtual classes and support Task-based Instruction (1). Its technical functions such as opening different portals for different learning zones and tasks could also offer a personalized and engaging learning environment to students with diverse learning profiles (2-3). Before teaching on Spatial, the teacher had to initiate the conversation most of the time on Zoom, but the students were not very responsive to spoken communication. They also found it demotivational to have group discussions with their peers through a 2D screen in Zoom breakout rooms. However, they seemed to be more engaged in the tasks and interactive in the VR classes although written communication was still dominant. For example, some students actively complimented the task design on different Spatial landscapes such as the art gallery and museum when matching the English captions with the exhibited pictures. They also looked eager to give feedback on their peers' works by posting a sticky note next to the answers or dropping a like reaction. For group discussion on integrated tutorial videos in the virtual conference room, the students still needed the teacher's monitor. Regarding technical features, it can be time-consuming to build a learning space that fits all lesson topics and upload a large volume of learning materials on Spatial. Therefore, teachers with modest digital skills may find it difficult to prepare for and deliver their lessons on the platform. Furthermore, this is a 3D space where the participants could "teleport", so sometimes the teacher could not keep track of the students and ensure they all participated in the learning activities. Immediate feedback was also not well provided as the students mostly worked independently and could only showcase and discuss their works at the end of the classes.

Discussion

1. What are the perceptions of Hong Kong university teachers and students about teaching and learning on Spatial?

Both qualitative and quantitative data demonstrate positive perceptions about EMI in VR classes in general, which aligns with the conclusions of Makransky et al. (2019) and Makransky and Lilleholt (2018). The VR platform, which is in this case Spatial, could provide a student-centered and personalized learning environment, increase student engagement and motivation, and give them more confidence in in-class interaction and communication. VR lessons on Spatial seemed to be more effective than those on Zoom with respect to peer feedback and student communication confidence, which Parong and Mayer (2018) disagreed with. These positive results, however, might simply be the students' initial responses to a new learning platform and first-time immersive learning experience. Like Zoom lessons, the excitement of learning on Spatial can diminish later after the students interact with the platform for an extended period. In addition, most students who participated in the study attended only one VR lesson, which is not enough to form a firm conclusion.

2. Can the teacher effectively deliver quality lessons to students through the VR platform?

Although the student learning performances in VR classes were not rated as highly as other socioemotional factors, and VR classes were still very different from actual face-to-face classes, the students could still achieve their learning goals and showed better learning performances through the teacher's clear instruction. The students could enhance their independent learning skills through self-regulated learning while the teacher acted as a guide on the side. However, the teacher was still the primary monitor of group discussion because some students still found it hard to initiate and lead the conversations themselves in a larger

group. There should also be more effective classroom management to ensure every student is engaged and lower-level students can receive timely support, especially when the teacher cannot be simultaneously present at all portals. Besides pedagogy, adequate technical training for both teachers and students is also required for proper teaching and learning experiences because some Spatial landscapes are quite large, and navigating through different spaces can be confusing.

Conclusion

This study gave HE teachers at EMI institutions the confidence to use VR platforms as a transformative pedagogical tool to bring their students new learning experiences. However, appropriate teaching approaches, lesson content, and socio-emotional support factors in the classroom should be highly considered. Although the study filled the theoretical gap about VR-supported immersive learning at the tertiary level in Hong Kong to some level, there were still some limitations, which prompted the expansion of this research topic. For instance, the VR classes in this paper were non-credit classes of the Informal Curriculum. Whether this instruction mode would work for compulsory courses of all academic disciplines has still not been confirmed. More importantly, the improved learning performance of students on Spatial stemmed from their subjective beliefs. No formal assessment instrument was used to test the academic performances of the students in the immersive classes, which should be properly investigated in future studies.

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