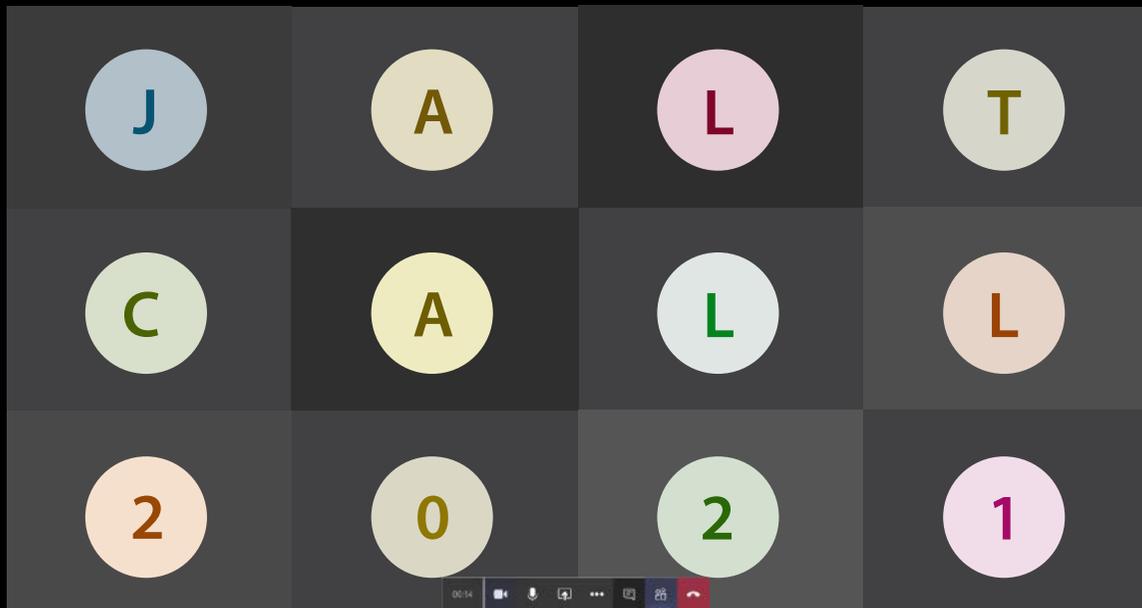
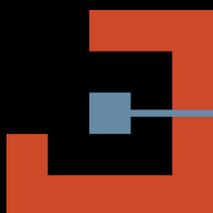


REMOTE TEACHING & BEYOND



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Selected papers
from the
JALTCALL2021
Conference

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Remote Teaching & Beyond

Selected papers from the JALTCALL2021 Conference, Aomori, Japan (online)



JALT CALL is a Special Interest Group (SIG) of the Japan Association for Language Teaching (JALT) that focuses on Computer-Assisted Language Learning (CALL) and technology in language learning.

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JALT is dedicated to the improvement of language teaching and learning.

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Layout by Paul Mason

Preface

Like the majority of events that took place within Japan and overseas in 2021, the JALTCALL conference was also affected by the ongoing COVID-19 pandemic. Unlike the 2020 conference however, we had valuable prior experience of running a conference as a totally online event. This allowed us to iterate on the first instantiation and create a smoother, more robust experience for everyone involved from participants to presenters, officers and of course our incredible volunteers. However, the conference itself was not the only thing affected by the pandemic. Following the trend of other organizations and conferences worldwide, the JALTCALL conference theme was also designed to explore, investigate, and give a voice to the experiences of CALL practitioners and researchers as they dealt with the peculiarities, restrictions, and frustrations of retooling themselves to teach or research in hybrid or online settings and contexts.

Many of the papers in this collection are a strong sample of the research and practice pertaining to the conference theme. However, and fortunately one might say, this is not true of all papers, showing that CALL research was able to be conducted without being too negatively affected by the pandemic. Nine papers were chosen to be included in this volume and they feature wide-ranging topics related to teaching online such as student opinions of how SNS and other online tools were utilized for learning during the pandemic, teacher-student relationships in online contexts, intercultural online learning and a guest piece from Keynote speaker Lavolette which directly addresses the theme of the conference by asking what will happen beyond the pandemic and our need to teach remotely subsidies. More “regular” CALL papers in the volume are concerned with peer-feedback, peer-evaluation, comparing corpora for language education, the development and evaluation of interactive fiction, and finally the state of micro-credentials in language education. As with previous editions, all papers were double-blind peer-reviewed and chosen for publication according to their quality, suitability and academic relevance to CALL research.

The editors worked with the authors to improve their manuscripts for publication in this volume of collected papers. The Editors-in-Chief hope that the readers of this volume will find these papers insightful, useful, and practical for language teachers in Japan and around the world.

We would like to thank the authors who worked diligently to provide well-researched studies and practically-focused papers with the common theme of CALL. Additionally, this book would not be possible without the dedication of our volunteer associate editing staff. We are greatly appreciative of their efforts in working with the authors to polish their manuscripts for publication.

Editors-in-Chief
Todd Dwayne Cooper, University of Toyama
James York, Tokyo Denki University

From the SIG Coordinator and JALTCALL2021 Co-Chairs

First of all, thank you for making JALTCALL2021 a successful event. We had 120 presenters and many participants from around 50 countries and regions as well as from all over Japan. This book is a collection of papers presented and other submissions from JALTCALL2021. We hope you enjoyed your experience at JALTCALL2021 and hope to see you at JALTCALL2022 from Friday, June 17 to Sunday, June 19, 2022.

Big thanks again to the tireless efforts of our co-chairs, Erin Noxon and Gary Ross, the conference team, and to all presenters and participants.

Ryan Barnes, Nagoya Gakuin University

As chairs it was our honor to help make the conference happen last year, and it is so exciting to see everyone's work presented in such a wonderful format. The conference was so energizing, connected, and showcased so many great ideas. Thank you to everyone for submitting your outstanding work, and especially thank you to the editors for working tirelessly to make this publication happen.

Erin Noxon, Kyoto Prefectural Sagano High School
Gary Ross, Kanazawa University

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Layout

Paul Mason, Production Editor, *JALT CALL Journal*

Technical Editor (website programming and design)

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1

Optimizing the future of language teaching with technology in Japan

Elizabeth (Betsy) Lavolette, Kyoto Sangyo University

Abstract

Pandemic-era teaching has taken many forms: online, face-to-face, hybrid, and hyflex, among others. In this article, I make four predictions for the future of language teaching with technology in Japan and provide my recommendations for optimizing this future.

First, I predict that online instruction will quickly fall back to pre-pandemic levels without interventions to prevent this. One area ripe for change is in virtual international experiences, such as online study abroad. Second, most institutions will adopt bring-your-own-device policies. Teachers will need more tech literacy to take full advantage of these devices. Third, institutions will recognize a growing variety of learning differences among students and rely on teachers to accommodate them. To support all learners, universal design will become standard. Fourth, although most instruction will return to the physical classroom, teachers will need to be constantly prepared to shift instruction online again. Emergency remote teaching will be inadequate.

To prepare to meet these challenges and optimize the outcomes, teachers need quality professional development. Although current offerings from our institutions are inadequate, CALL experts can help to fill some of the unmet needs. I encourage CALL experts to push for the future of technology in education that they would like to see.

パンデミック時代の教育は、オンライン、対面、ハイブリッド、ハイフレックスなど、さまざまな形態で行われてきた。本文では、日本におけるテクノロジーを使った語学教育(CALL)の未来について私の4つの予測を述べ、その未来に備えるような提案も紹介する。

第一に、オンライン教育は、関係者の介入がなければ、パンデミック前と同じようになくなってしまふようになると思う。その中でも、オンライン留学のようなバーチャル体験は、変化の兆しが見える分野である。第二に、ほとんどの教育機関がデバイスの持ち込み(BYOD)に関するポリシーを採用すると思われる。デバイスを最大限に活用するために、教師はより高い技術リテラシーを身につける必要がある。第三に、教育機関は、生徒の学習上の差異がますます多様化していることを認識し、それらに対応できるように教師に依存するようになる。すべての学習者をサポートするために、ユニバーサルデザインが標準になる。第四に、ほとんどの授業は物理的な教室に戻るが、教師は常に授業を再びオンラインに移行できるように準備しておく必要がある。「緊急遠隔授業」は、不十分である。

このような課題に対応し、成果をより良くするために、教師は質の高い専門的能力を身につける必要がある。現在、私たちの教育機関が提供しているものは不十分だが、CALLの専門家は満たされていないニーズのいくつかを満たすことができるのであろう。CALLの専門家は、自分が望んでいる教育におけるテクノロジーの在り方を後押しすることをお勧めする。

Keywords: professional development, faculty development, emergency remote teaching, universal design, BYOD, study abroad

Introduction

When I was invited to give a keynote at JALTCALL 2021, it prompted me to reflect on my relationship to the field of computer-assisted language learning (CALL; see also Lavolette, 2021). My MA and PhD were CALL-focused, and immediately after defending my PhD dissertation, I became the director of a language center at a small private college in the US. An important part of my role was providing professional development (PD) to language faculty, especially regarding technology. By giving frequent workshops and one-on-one training at my own institution and elsewhere, I gained a general understanding of what faculty members were likely to be able (or unable) to do with technology and how I could help them.

However, when I moved to Japan to accept a job as a professor, suddenly I was no longer holding workshops. I had much less insight into what my colleagues were doing and what their skills were. I began to think that my skills and interests were only of use to myself, not to others. Without any evidence, I came to the premature conclusion that we were in an era of ubiquitous technology, and that its use in language teaching was a given.

The sudden shift to emergency remote teaching (ERT) showed me that technology was, in fact, not a given for many teachers. I was shocked to discover that some of my colleagues did not know how to use our learning management system, Moodle, despite it having been available at my institution since 2005 (T. Robb, personal communication, May 24, 2021). I do not place all blame on faculty members themselves for this situation. Undoubtedly, many factors discouraged them from learning to use Moodle and other technology tools, such as a lack of urgency and a lack of training for part-time faculty and faculty members, especially those who are not comfortable working in Japanese.

This lack of training highlighted to me the importance of PD that can reach all teachers, not just the full-time, tenured, Japanese speakers. I saw the need to reach out to part-time and contract faculty and those less comfortable with Japanese. This led to me creating a help group on Teams, where other participants and I answer questions via text and video chat. We have even held a fully online mini conference.

In a small way, I was able to help people who were struggling to teach in a very stressful situation that they were not adequately prepared for, and this gave me a renewed sense of purpose as a CALL professional. Of course, I am far from the only faculty member taking on the challenge of supporting our fellow teachers (see, e.g., Isaacson, 2020; Skeates et al., 2020; Verla Uchida, 2020).

While supporting other teachers takes time and effort, it has also been greatly rewarding

for me. That is, my work no longer feels so solitary because of my connection with other faculty members. I also see that my technology skills are useful not only in my research and teaching my own students but are also needed to help other faculty members, which indirectly helps their students. Supporting other teachers gives me a renewed sense of purpose in my work that has been a silver lining of the pandemic.

So, with this renewed purpose and sense of my identity as a CALL professional, I make some predictions about the future of the field, with a focus on the influence of the pandemic. Below, I begin with a look at a prediction for the field made nearly 35 years ago. Then, I make and justify predictions in four areas: online instruction, bring-your-own-device, universal design for learning, and disaster preparedness. Finally, I provide my perspective on how CALL professionals can influence developments in these areas and what their role might be in helping other teachers prepare, that is, their role in professional development.

Predictions

Nearly 35 years ago, in the opening keynote address at the Computer Assisted Language Instruction Consortium Conference, Ray Clifford (the former provost of the Defense Language Institute in the US) said, "...while computers will not replace teachers, teachers who use computers will eventually replace teachers who don't" (Clifford, 1987, p. 13). In other words, Clifford was trying to assure teachers that technology was not their enemy.

As a response to this prediction, in his talk at the 2021 Georgetown University Roundtable, Bryan Smith summed up the current situation as follows: "Language teachers are not being replaced by teachers who use technology, but we are gradually (or not so gradually) becoming those very teachers" (Smith, 2021). That is, due to emergency remote teaching, many language teachers have been thrust into using technology, without any regard to their preferences. The pandemic has greatly accelerated a process by which teachers were already increasing their technology literacy.

What will these newly technology-literate teachers do, through their own volition or otherwise, when they return to brick-and-mortar classrooms? I make some specific predictions for what will happen in Japan. I also share the aggregated predictions of 56 JALTCALL 2021 attendees, who responded to a short questionnaire survey before or during my talk. Note that this is a convenience sample, undifferentiated by teaching context or any other factor, and the questions were not piloted. However, the results provide some insight into whether JALTCALL attendees agreed with my predictions.

Online instruction

The questionnaire survey began with perhaps the most obvious question about the future of language teaching in Japan: "What will happen with online teaching and learning?" Three options were available (in addition to "I have no idea" and "other"): "quickly return to pre-pandemic levels" (14.5%), "keep some limited teaching/learning online" (58.2%), and "keep a lot of teaching/learning online" (23.6%). The results showed that a large majority of attendees (81.8%) believed that at least a limited amount of online teaching and learning would remain online.

My own predictions are somewhat more nuanced than the multiple-choice options allowed. First, without intervention, online instruction will quickly fall back to pre-pandemic levels. On the other hand, with intervention, some online instruction can be maintained, and in the area of international experiences, online instruction can even be expanded.

Online instruction will fall back to pre-pandemic levels

Without an effort by teachers and students, I predict that online instruction will quickly fall back to pre-pandemic levels. This prediction is aimed at higher education, given that primary and secondary schools have generally maintained face-to-face instruction throughout the pandemic, with the exception of a short period in March 2020 (Zenkoku no shōchūkō, 2020). Below, I elaborate on four reasons for this prediction: lack of demand from students, conservative authorities, confusion of emergency remote teaching for online learning, and a failure to consider differing course types.

Personally, I have not seen demand for online learning from students. For the most part, they seem to be eager to return to the classroom. This contrasts with the situation in the US, which might otherwise be a useful indicator of Japan's future, given that the US has, as I write this, a much higher vaccination rate than Japan. Many US colleagues that Bryan Smith (2021) interviewed predicted that hybrid courses (i.e., those taught in person on certain days and asynchronously online on other days) will become the norm there because of student demand.

In contrast to the situation in the US, students in Japan may not demand continued online instruction. Few Japanese university students are nontraditional students; according to the Ministry of Education, Culture, Sports, Science and Technology (MEXT, 2019), nearly 98% of new university students were 18, 19, or 20 years old in 2019. This means that there are few students who have responsibilities such as full-time jobs and families, who therefore need more flexibility in their studies.

The second reason for my prediction is that the decision makers involved are conservative institutions. By their very nature, MEXT and universities resist change and will force a return to the "old normal" as quickly as possible. MEXT demonstrated that resistance to change clearly in fall 2020, when it named and shamed universities that had more than 50% of courses online (Ito, 2020). Universities demonstrated their own resistance to change when they moved back to face-to-face teaching, even if faculty, staff, and students did not feel safe, to comply with MEXT's demands.

The third reason for my prediction is a fundamental misunderstanding of online learning in society at large, including among teachers and administrators. That is, many people conflate the use of Zoom (or other video conferencing systems) with emergency remote teaching (ERT), which they further confuse with online learning (Gacs, Goertler, & Spasova, 2020). In contrast to ERT, online learning requires extensive planning and course development, which simply was not possible at the beginning of the pandemic. Unfortunately, not all teachers have improved their online teaching since then, which may fuel the misconceptions.

The fourth reason for this prediction is that institutions may be making decisions that apply to classes broadly, rather than considering different class types and the students enrolled (see below). For these four reasons, I predict that without any intervention, online

instruction will quickly fall back to pre-pandemic levels. However, maintaining some on-line instruction may be possible with stakeholder intervention.

Some online instruction can be sustained

I argued above that MEXT and universities will be forces pushing for a return to face-to-face instruction. However, students and faculty could apply pressure toward change.

Although I have not seen student demand for continued online learning, it has direct benefits for them. Online communication is a daily occurrence, and incorporating it into learning is not only convenient, but also useful preparation for students' future careers. In addition, certain categories of students benefit from more flexible class schedules and modes of attendance. For example, third- and fourth-year university students who are on the job market need to attend interviews, and students in professional programs, such as education and nursing, need to participate in off-campus practicums. Universities may be so eager to help students find jobs that students need only argue that online courses support them in their job hunting. If students indeed appreciate these advantages of online learning, they could make their voices heard and effect change.

Faculty and CALL experts could further argue for the effectiveness of keeping certain types of classes online. First, I consider the size and format of the class. As an example, in the spring 2021 semester, I was teaching a lecture for 230 students, a seminar for 2 students, and several content-based classes with enrollments of 20 to 35 students. The way each type of course works online is very different. In the case of the large lecture, an asynchronous format that uses short videos with interspersed quizzes has worked even better for me than lecturing in the classroom. A disadvantage to this teaching format is the lack of interaction, but interaction is difficult to facilitate in such a large class even when it is held face-to-face. Advantages to this format are that I never have to tell students to be quiet so that everyone can hear, and students can review the lectures as many times as they like, at whatever playback speed they like. At the other end of the spectrum, very small seminars can be taught in nearly the same way regardless of online or offline mode by using video conferencing tools such as Zoom, so the flexibility of online courses may be a useful recruiting tool. My experience with medium-size classes is that many factors impact their success, which makes it more difficult to generalize about their suitability for online learning.

Personal experience is certainly valuable, but upper administrators may respond better to data. As evidence, we can cite, for example, student grades and course evaluations. If you had time to do your own related research during the pandemic, I applaud you and urge you to share the results with administrators. If you did not have time to conduct your own research, another strategy is to cite the research that supports our course development. For example, when I was creating my asynchronous lecture course videos, I referred to the work of Guo, Kim, and Rubin (2014), who studied engagement based on 6.9 million video-watching sessions across four STEM courses on edX, a provider of massively open online courses (MOOCs). They operationalized engagement as the time spent watching the videos and whether each student attempted to answer multiple-choice questions immediately after watching. Based on their findings, they made some practical recommendations for creating engaging videos. I followed some of these recommendations in

making my own videos: videos should be short (less than six minutes), slideshow videos are more engaging if the teacher's face also appears at times, an informal setting for the video has a more personal feel that makes it more engaging, and instructors who speak enthusiastically are more engaging (p. 42).

The types of students enrolled in classes should be another factor in determining whether it should be taught online. First-year students, who do not know each other and are experiencing university life for the first time, are different from third- and fourth-year students, who may already know each other, are very familiar with university life, and may have experience learning online. It bears repeating that these students appreciate the flexibility of online classes when they are on the job market.

Based on these arguments, students and faculty may be able to keep some courses online. I urge universities to allow lecture classes and small seminars to be held online at the discretion of the instructor, especially for third- and fourth-year students. Other class types might also be suitable for online instruction if appropriate resources are devoted to their development. Student training for online learning should also be strongly considered, especially for those without prior online learning experience.

While getting universities to consider keeping regular courses online may be a struggle, providing international experiences online may be an easier sell.

Online instruction will increase for international experiences

I predict that virtual international experiences will be increasingly available to students in Japan. These experiences may take many forms, including online courses and immersive experiences in lieu of traditional study abroad, support around traditional study abroad (preparation, during, and after returning), virtual internships, and virtual language exchange and telecollaboration.

I have several reasons to believe that these opportunities will increase. First, teachers and administrators are now familiar with online instruction. Even if they have some misconceptions about the nature of online learning, they know that it is possible and can provide a route to providing international experiences to students in Japan. Related to this, students and parents have also seen that online learning is possible and may begin demanding options beyond traditional study abroad because of concerns over cost, safety, flexibility, and on-time graduation. In addition, while MEXT exerts control over what counts for course credit in Japanese institutions, they have less input into non-credit opportunities and exchanges arranged as part of for-credit courses.

International experiences have not paused during the pandemic. At least seven presentations at the JALT PANSIG conference in May 2021 and at least four presentations at JALTCALL in June 2021 reported on virtual international experiences. To cite just one example, at the Study Abroad SIG Forum at the PANSIG conference, Wistner et al. (2021) reported on their participation in a collaborative online international learning (COIL) project. One of their conclusions was that professional development is needed for effective exchanges. I return to this important point below.

To summarize my predictions, online instruction at Japanese universities will make a quick return to pre-pandemic levels unless faculty and students to keep certain types of

courses online. On the other hand, online instruction has the potential to expand in the area of international experiences.

Bring your own device

The next question that I posed to JALTCALL attendees was, “What do you think will happen with bring your own device (BYOD)?” The responses (excluding “I have no idea” and “other”) were “over 80% BYOD” (45.5%), “40 to 80% BYOD” (30.9%), “Under 40% BYOD” (12.7%).

After asking their opinions, I revealed to attendees that BYOD was already the policy at nearly 40% of universities (37.9% planned to be BYOD in 2018; AXIES, 2016) and nearly a quarter of high schools (23.5% in 2020; Obunsha, 2020). While more recent data is not available for universities, the rate of adoption has likely continued to increase since 2016. In addition, nearly all primary and junior high school students will have their own tablet or laptop computer, provided by the school, by the end of the 2021 school year (Zenshōchūgakusei, 2021). This provides the first reason that I believe that most institutions will adopt BYOD policies. That is, students in primary education will be accustomed to using technology in the classroom, which will apply pressure to high schools and universities to provide students with devices or require them to bring their own.

A second reason for this prediction is that even at universities that have no BYOD policies, students have been required to use their own devices to participate in remote learning. Any faculty member who taught online has dealt with students’ own devices on an emergency basis. At the same time that faculty were proving that online instruction is possible, students were proving that BYOD is possible. Institutions are likely to seize this opportunity to reduce costs related to providing computer access on campuses.

I believe that formally implemented BYOD will bring significant advantages for the use of technology in language classes. Of course, it will also present challenges because students are generally allowed to choose from a variety of acceptable devices, rather than being required to purchase a device of an exact make and model. In addition, institutions may not check that students have purchased an acceptable device, so in any given classroom, a student might have devices as different as an iPad or a Windows laptop with the accompanying variations in available software. Teachers will need more tech literacy to take advantage of these devices without excluding any students. One way that this tech literacy can be gained is through professional development provided by teachers’ institutions.

Universal design for learning

The third question that presentation attendees answered was, “What do you think will happen with universal design for learning in Japan?” Excluding “other” responses, the responses were “used more” (26.8%), “same” (25%), “used less” (1.8%), and “What is universal design?” (39.3%).

I predict that universal design for learning (UDL) will become standard practice in schools and universities. However, the audience questionnaire results support my suspicion that UDL is far from universally known to educators. I hope making the prediction itself raises awareness of UDL and how it can benefit students, thus making the prediction self-fulfilling.

Before I explain my other reasons for making this prediction, UDL itself needs to be explained. CAST (2021) defined UDL as “a framework to improve and optimize teaching and learning for all people based on scientific insights into how humans learn.” In other words, UDL provides a system to support all learners, regardless of learning differences.

The CAST website (<https://udlguidelines.cast.org/>) provides helpful information on the three UDL guidelines of engagement, representation, and action and expression. In short, providing learners with multiple options is essential. For example, in the area of engagement, learners differ in the ways in which they are motivated to learn. Providing options for novelty or routine, solo or group work, helps to support all learners. Representation refers to the ways that information is presented to learners, with consideration needed for presenting information in ways that accommodate sensory and learning differences. Finally, learners differ in the ways that they can take action and express what they know, so options (e.g., writing, speaking, recording a video) should be provided.

The connection between UDL and technology is clear: Technology can make it easier to offer educational resources that follow UDL guidelines. As Morra and Reynolds (2010) wrote, “Using UDL principles, technology-enhanced course design is an effective way to create flexible learning environments for learners” (p. 49).

I predict that UDL will become standard practice for three reasons. First, our institutions are recognizing a growing variety of learning differences among students. At elementary and junior high schools in Japan, the number of students who were recognized as having certain learning differences, including ADHD and autism, more than doubled from 2007 to 2017, despite the fact that the total number of students enrolled decreased during the same period (Miyasaka & Yoshizawa, 2019). Rather than indicating that the percentage of students with learning differences increased, this should be interpreted as an increase in diagnosis and recognition. Higher education showed a similar trend from 2007 to 2017, with the number of recognized disabilities among students increasing nearly six-fold (Japan Student Services Organization, 2021).

The second reason for predicting that UDL will be widely used, particularly in higher education, is that universities are competing for a shrinking population of potential students. Japan’s population of 18-year-olds has been steadily falling from a high of over 2 million in the early 1990s and is projected to fall to around 1 million by 2025 (Yonezawa, 2020). Being able to support all learners via UDL will be required for universities to attract students.

A third reason for this prediction is that the COVID-19 pandemic has emphasized the importance of accessible technology. During remote learning, technology is the only communication link between teachers and students, which brings into stark relief the importance of accessibility for all students.

Further supporting my prediction is the proliferation of recent scholarship out of Japan on this topic, although UDL is not always mentioned by name. I counted three presentations at the annual JALT conference (November 2020), two at the Living on the Edge conference (May 2021), and two at the PANSIG conference (May 2021). A call for chapters for a volume about barrier-free learning went out in May 2021, and universal design is the theme for the 2021 Japan Association for Language Education Technology conference.

For my own part, I need a greater understanding of UDL so that I can more effectively

support learners. The results of the audience survey revealed that I am not the only one. Professional development is needed in this area, too.

Disaster preparedness

The final question that I asked the audience to respond to was, “What do you think will happen with disaster preparedness in Japan?” The options were “Our institutions will demand that teachers be ready for online instruction at any time” (48.2%), “Institutions will not prepare to move online” (30.4%), and “I have no idea” (16.1%), in addition to “other” (5.4%).

Nearly half of the audience agreed with my fourth prediction: Although most instruction will return to the physical classroom, we will need to be constantly prepared to shift instruction online again. This will apply not only during the ongoing COVID-19 pandemic but is also necessary preparation for future public health or natural disasters that prevent face-to-face instruction.

There are many reasons that I make this prediction. Certainly, our institutions, students and their parents, and other stakeholders would like to avoid future interruptions to schooling. Given that Japan suffers from earthquakes, tsunamis, landslides, and typhoons, in addition to public health threats, our institutions may take the COVID-19 pandemic as a warning to be prepared. We have proven during the current crisis that rapidly transitioning between face-to-face and online teaching modes is possible, and our institutions may insist that we be prepared to do it again.

Although teachers in Japan have shown that emergency remote teaching is possible, universities were frustratingly underprepared before the pandemic. Online learning is not new, but you would not know that from looking at the situation in the spring of 2020. Perhaps many teachers in Japan believed that they did not need to develop online teaching skills or even learn to use basic technology, such as learning management systems. Beyond that, their institutions may have done little to promote technology use or help teachers develop skills. This meant that in 2020, teachers were forced to re-invent online learning under enormous time pressure. In other words, they did emergency remote teaching.

Emergency remote teaching is not something we should repeat. Instead, we should be prepared to provide online learning (Gacs, Goertler, & Spasova, 2020) as needed. This requires us to plan for rapid transitioning between face-to-face and online teaching modes. Our course development must reflect this reality. However, if we allow our institutions to dictate how teaching will be done, they may choose the option that is most flexible for students and most unsustainable for teachers: hyflex.

Hyflex is a course model in which teachers teach in a face-to-face classroom to physically present students, while simultaneously teaching online students who are attending synchronously. In addition, teachers provide equivalent asynchronous instruction to students who do not attend during the class time. Students are free to choose among the three modes of participation on any given day (Beatty, 2019).

In this course model, teachers are in essence teaching three courses simultaneously. We will burn out if required to teach that way, so I believe that we need to push for the most effective learning solutions that are also sustainable for teachers. Clearly, emergency

remote teaching is longer adequate, and teachers need to provide high-quality online learning experiences. However, we need research showing the pros and cons for both learners and teachers of each approach, including hyflex, other hybrid models, and synchronous and asynchronous online models.

Summary of predictions

I made a series of predictions about the future of technology in language teaching in Japan. First, without some intervention, I predict that online instruction will quickly return to pre-pandemic levels. However, a strong argument can be made for keeping some instruction online, such as large lectures and classes for students on the job market. In addition, international experiences have the potential to expand the use of online instruction.

I further predict that bring-your-own-device and universal design for learning will become norms at all levels of instruction. Finally, I predict that our institutions will expect us to be prepared to switch to online instruction at any time, in case of various disasters.

How can we optimize this future? My answer is higher quality, more inclusive professional development on specific topics of relevance to teachers.

Conclusion: Focus on professional development

Professional development (PD; also known as faculty development, or FD) refers to “opportunities intended to aid faculty members in their professional growth as a teacher (or a researcher, or both)” (Lavolette & Koyama, 2021). There are many forms of PD (c.f., Ijiri & Lavolette, 2021), but I concentrate here on institutional PD, that is, PD provided by the institutions we work for. For example, institutions can provide workshops, webinars, lists of resources, and communities of practice for their faculty members.

This focus on institutional PD is for two reasons. First, all undergraduate institutions in Japan have been required to provide PD since 2008 (Kano, 2015; Konno, 2016; Suzuki, 2013). This means that faculty members are required to attend PD sessions, so we should ensure that these sessions are useful. Second, institutions are best positioned to provide PD that takes the context into account. Context is an important element of the TPACK model (Koehler & Mishra, 2009), which emphasizes that the overlapping types of knowledge that teachers need (technological, pedagogical, and content knowledge) are embedded in their contexts. Thus, PD that teaches this knowledge also needs to be specific to the context, and faculty members working at the same institution understand their shared context. For example, faculty members at a given institution know what technology tools they have access to and what the limitations are in using them.

Here, I concentrate on institutional PD for language teaching to meet the challenges related to my predictions for the future of technology in language teaching. This PD must be inclusive of part-time teachers (e.g., Skeates et al., 2020) and non-Japanese-speaking teachers. It must be high quality, designed to meet the needs of teachers, and fit the teaching context. CALL experts are well positioned to provide PD that meets these criteria.

However, the PD currently offered by our institutions is inadequate, at least in higher education. Unfortunately, I don't have data about elementary, junior high, or high schools in Japan, but the results of my recent co-authored research (Lavolette & Koyama, 2021)

shed light on the situation at universities. With Dennis Koyama, I conducted a survey that targeted language teachers in higher education in Japan. This bilingual (English and Japanese) questionnaire survey was sent out via social media and email lists of professional organizations, such as the Japan Association for Language Teachers. Complete responses were received from 38 participants at institutions around the country. About 74% of respondents were L1 English speakers, and all participants were English teachers.

A few of the questions shed light on the effectiveness of institutional PD. First, 27 participants provided text-entry responses to the question, “Based on PD/FD sessions you have attended, what changes have you made to your teaching?” Only around 40% of respondents indicated that they made changes based on sessions in the previous year. Note that participants may have attended many PD sessions during that time, yet 60% made no changes to their teaching. This indicates that institutional PD sessions are not very effective.

Continuing with the analysis of the responses to the question above, of the 40% of participants that made changes, L1 Japanese speakers (about a quarter of participants) made up more than one-third of responses. This implies that L1-English faculty members find PD less effective. If PD sessions are available in Japanese only, this may explain the discrepancy. Of course, L1-English speakers who work at Japanese institutions should work to improve their Japanese language proficiency and take advantage of resources offered in Japanese. However, the institutions that hire these faculty members also have a responsibility to support them, including by offering PD in English.

Next, we asked, “Does your workplace survey teachers for topics of interest for PD/FD sessions?” The possible responses were “Yes” (39%), “No” (32%), and “I don’t know” (29%). Given that less than 40% of respondents said “yes,” most institutions are probably determining topics in a top-down fashion. They are more likely to meet teachers’ needs if they ask what those needs are.

Some free-form responses from participants shed light on how to improve institutional PD. First, institutions should reach out to part-time teachers. As one participant said,

Usually if I’ve made the effort to go to any [PD sessions] I’m the only part time teacher present and what is discussed isn’t relevant to me or my teaching. Also some schools hold them at times that I’m teaching at other universities.

If the goal is to improve teaching, universities should make good-faith efforts to include part-time teachers by asking about their needs.

Next, PD sessions are a type of education, so they should follow educational best practices. Active learning was specifically mentioned by two participants. For example, one participant said,

There never are any pre-study questions provided – at times not much of an abstract outlining the topic or scope of coverage. There is rarely time for any questions ... making them the complete opposite of the ‘active learning’ practices we ‘should’ be following in our own teaching. And rarely or more so never is there any follow up after the session.

Finally, we asked participants on which topics they would be most likely to attend PD

sessions. Out of 21 topics, “technology for language learning” was the most highly rated, with 84% of participants saying that they would be very likely or likely to attend. In other words, language teachers are in need of CALL expertise.

The general topic of “technology for language learning” provides an opening to drill down to more specific topics. When asking language faculty members what topics they want to learn about, it may be easier for them to respond if we provide some options, rather than only asking an open-ended question. My suggestions fall into categories based on my predictions for the future of language teaching in Japan.

- Online instruction
 - Best practices in online course design
 - Designing and facilitating effective virtual international experiences
- BYOD: How to support students using the devices specified by the institution
- Universal design: How to support all learners, with a focus on learning differences
- Disaster preparedness: Building courses for flexibly transitioning between face-to-face and online modes

In conclusion, CALL practitioners and researchers have a significant role to play in optimizing the future that I am predicting. Part of that role is to provide higher quality, more inclusive professional development that responds to teacher needs.

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Author's bio

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2

Micro-credentials: Surveying the landscape

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Abstract

This paper will discuss micro-credentials (MCs) as a viable emerging form of non-degree qualification which offers flexible, inexpensive contents that closely match learner needs. The opportunities to gain MCs, including language learning, are increasing with higher education institutions and other providers rapidly developing a variety of online MCs. However, the lack of agreed definitions as to what MCs are can undermine their value and uptake. MCs also vary widely in terms of duration, assessment, and whether they can lead to further qualifications or not. In order to overcome these challenges governments are establishing various frameworks for MCs. The EU, New Zealand, Malaysia and the US have all created good practice models to guide both providers and learners. Some of the common features that these agencies have specified in the development of these frameworks will be explained. In addition, the current provision and uptake of MCs in Japan will be described and suggestions made as to how this could develop in the future, especially concerning the role of higher education institutions.

学位を取得するためではなく、学習者が必要とするコンテンツを柔軟にかつ安価に取得できるマイクロ修了書 (MCs) が世界的に増加している。語学学習を含む様々なコンテンツのMCsは、オンラインでの学習が可能となった今日、高等教育機関や他の教育機関で取得できる機会が増えている。しかしMCsの定義がまだ曖昧なこと、それに加えてそれぞれのMCsの取得に必要な期間、評価基準、またMCsが学位などに読み替えられるか否かなど不確かなことが多いため、MCsの価値やそれを利用する機会はまだ限定されているのが現状である。これを打破するため、EU、ニュージーランドやマレーシア、米国などの政府機関はMCsを提供する教育機関と学習者両方にとって有益となるフレームワークを確立し始めている。本稿はこれらのフレームワークに共通する点を明らかにし、また日本において、特に高等教育機関に向けて、このMCsを念頭においた新しい教育のあり方を示唆する。

Keywords: micro-credentials, higher education, online qualifications, model frameworks, Japan

Introduction

Macro-credentials in the form of university degree programs have existed for decades, even centuries, in many countries. As a result of this long history of development, as well as the external monitoring of degree quality, societies in general respect and trust the qualification that an undergraduate or postgraduate degree symbolizes. Micro-credentials (MCs), as the name implies, are a much shorter form of qualification than a degree program (Oliver, 2019). In recent years they have become more and more popular with learners in response to changing job training challenges (Gallagher, 2018), the focus on lifelong learning (Oliver, 2019), and since early 2020, in response to the challenge of the COVID-19 pandemic and its impact on employment (Impey, 2020; Younge, 2021). They have also become popular with higher education institutions as a potential additional revenue stream (Gallagher, 2019) and with major employers as a way of developing existing workers' skills (D'Orio, 2019).

MCs are not degree-based and can offer flexible and inexpensive courses which closely match learners' needs, particularly in subject areas where employees and learners need to upskill or reskill quickly (OECD, 2021). However, the lack of agreed definitions as to what MCs are, a lack of clarity as to who can provide and assess them, and whether they are trustworthy and valid qualifications can undermine their value and uptake. This paper addresses these gaps by answering the following three questions: 1) What are MCs? 2) What kinds of courses lead to MCs? 3) What are the key challenges facing MCs?

The main features of four different MC frameworks in the EU, New Zealand, Malaysia and the US will be described and the implications that these frameworks suggest will be drawn out. Finally, a number of suggestions concerning the development and assessment of MCs in Japan are put forward.

What are MCs?

Many terms are used interchangeably with MCs including certificates, digital badges (Hartnett, 2021), nano-degrees, micro-masters (Young, 2017) and alternative credentials (Kato et al., 2020). These terms describe both the kinds of courses that are offered and the certifications that are awarded upon completing a course. Different organisations and scholars have slightly different definitions of what MCs are. For example, the US-based Digital Promise states that an MC is a "digital certification that verifies an individual's competence in a specific skill or set of skills" (Younge, 2021). The European Commission (2021) wrote that, "A micro-credential is a proof of the learning outcomes that a learner has acquired following a short learning experience. These learning outcomes have been assessed against transparent standards" (p. 10). Other scholars define MCs as being part of a complicated *credential ecology* (Brown et al., 2020) which includes credit bearing courses, non-credit, bundled and unbundled courses, short courses, badges and awards. For this paper we would like to use a widely quoted definition by one of the leading authorities on micro-credentials, Beverley Oliver, who describes MCs as a "digital certification of assessed knowledge, skills and competencies which is additional, alternate or complementary to or a component of formal qualifications" (Oliver, 2019, p. 19).

What kinds of courses lead to MCs?

Whichever term is used, MCs are emerging as a viable form of non-degree qualification (Brown et al., 2021). Brown et al. point out that reasons for the increasing popularity of micro-credentials is that, compared to more traditional programs, they are more affordable and flexible; learners do not generally have to pay high tuition fees; and online courses offer great flexibility in terms of time and location which particularly suits those who are already working. Following a survey of 750 US companies, Gallagher (2018) claims that, at the moment, MCs are seen by employers as supplementary to degree programs, that is, they are very useful to upskill or reskill in the middle or later stages of an employee's career. From a higher education perspective, MC courses can also serve as a lure or sample for longer, more expensive degree courses (Boud, 2021). So, in these circumstances what kinds of courses lead to MCs?

Among a large range of courses leading to MCs, the most common are Massive Open Online Courses (MOOCs) which are increasing rapidly (Shah, 2020). The MOOC provider and referral service, Class Central, reports that the largest MOOC provider, US-based Coursera, moved from 8 million new registered users in 2019 to 76 million in 2020; an almost tenfold increase in just one year (Shah, 2020). After Coursera the next four MOOC providers in 2020 were EdX and Udacity (both US); Future Learn (UK) and SWAYAM (India). This list excludes MOOCs in China as Class Central could not independently validate the data that was available. Courses leading to MCs range from general skills such as language learning, to more specific ones like coding. The top courses for 2020 were personal development, business, art and design, management and leadership, and self-improvement (Shah, 2020).

MOOCs are hosted and marketed on the above-mentioned platforms but the courses themselves are increasingly made in partnership with industry partners (examples include Google and Microsoft) (Oliver, 2021) or with higher education institutions (Fitzgerald & Huijser, 2021). Let us look at one example of a higher education partnership. Future Learn is a UK-based MOOC platform with a number of university validation partners that provide MCs. These include Deakin University in Australia, Dublin City University in Ireland and Coventry University in the UK (Wallace, 2021). Examples of two-week MCs developed with Coventry University include "Cloud Computer Practitioner with AWS Academy Cloud Foundations" and "Data Analytics for Business with Tableau Training" (Wallace, 2021). At the moment such Future Learn MC courses are aimed at the postgraduate level.

Deakin University is particularly interesting as it has been a pioneer of both online courses for traditional degrees and MCs (Jorre de St Jorre et al., 2016). In 2016, it introduced its Hallmark badging system with a clear framework for assessment including reflective testimony and video evidence (Jorre de St Jorre et al., 2016). These badges were introduced as a way for current undergraduates to showcase their learning outcomes or graduate attributes to future employers. One of the potential criticisms of MCs is that they can be seen as purely focused on skills without the wider benefits of a degree (Young, 2019); however, in Deakin's case the badging system emerged in tandem with a degree program (Jorre de St Jorre et al., 2016).

Finally, in this section an illustration of what a MC might look like in the language learning field is given. There are numerous language tests that learners can take to give an

assessment of their competency or skill in a language. International English Language Testing System (IELTS), Test of English for International Communication (TOEIC), and Test of English as a Foreign Language (TOEFL) are three common international tests of English: are they classed as MCs? One well-known classification of educational credentials is that by the European Commission's Open Education Passport (<https://oepass.eu/>) which divides credentials into four types (examples in parentheses): formal qualifications (degrees); non-formal certificates (MOOC certificate of achievement); recognition of skills (language proficiency exam); and records of experience (certificate of participation) (Camilleri & Rampelt, 2018). In this classification the three international English tests would be seen as recognition of skills, and are certainly a credential. However, it is argued that they are not MCs in that they are not necessarily the result of a short course, nor are they part of, or an alternative to, formal qualifications. So, what would a language learning MC look like? One example is Future Learn's French for Global Communication (Level 1) offered in partnership with King's College, London, and costing \$864 (Future Learn, n.d.). This is offered over a ten-week period and includes 50 minutes a week in a face-to-face lesson. The seven stated learning outcomes include basic factual knowledge and range of vocabulary which matches with the CEFR A1 basic user level. Assessment is by oral and written exams and a portable certificate is issued to successful applicants that can be shared with future employers or institutions. Future Learn labels this course as a MC and it also matches Oliver's (2019) definition mentioned above: it is a short learning experience that is assessed against recognised standards and is complementary to a formal qualification.

What are the key challenges facing MCs?

Having described what MCs are and what kinds of courses can lead to MCs, the paper will now examine the key challenges facing the development of MCs. Perhaps the most urgent issue for MCs is that there are few validating frameworks that they fit into (OECD, 2021; Oliver, 2019). If a learner takes a degree course that will clearly fit into an existing qualifications system, but this is not the case with MCs. Ideally learners need to know that any MC they earn will be accepted by future employers or educational institutions, and in turn they need to trust that an MC is valid and trustworthy. The validity of MCs is complicated as they vary widely in terms of costs, duration, modes of assessment, and whether they can lead to further qualifications or not. The latter issue can be divided into two important topics connected to MCs: stacking and portability. Stacking is the ability to put one smaller credential towards a larger credential such as a degree, and portability is the degree to which an MC is recognized by other institutions (Kazin & Clerkin, 2018).

Given all this it can be hard to know whether a specific MC is a worthwhile qualification, or as Ralston (2020) stated, "Lacking program accreditation, microcredentials are not comparable in the same way that degrees and certificates are" (p. 91). As a result, organizations across the globe are responding to this situation by creating authorized frameworks that MCs can fit into. They are all slightly different but all are examining similar issues such as defining MCs, deciding who can provide and assess MCs, and examining the possibilities of stacking and portability. In the next section four frameworks from Europe, New Zealand, Malaysia, and the US are examined. There are, of course, other countries and regions which

are developing guides for MCs and have considerable experience in this area; Australia for example, but in the interests of economy this paper describes four different kinds of models that vary in terms of size, scale and scope: The European Union has a regionally coordinated large-scale plan across many countries; New Zealand, a country with a small population and few higher education institutions; Malaysia, an emerging nation with a rich mix of languages and cultures; and the US, which does not have a centralised system but given here is one example developed by a non-profit organisation.

European Union

The EU MOOC Consortium (EMC), a partnership of European university MOOC providers, is working to create a common MC framework by 2025 (ECIU, 2020). This group has had substantive discussions about what MCs are, developing a common European approach, and creating what they call a “roadmap” of actions to be taken leading up to 2025. The educational philosophy behind this movement is to both address skills gaps in employment but also to develop solutions to societal challenges such as sustainability. “Certified MCs can help to make education more accessible, better showcase learning achievements, and enhance career opportunities” (ECIU, 2020, p. 4). The EMC is gradually aligning its framework with national qualifications frameworks in European countries, defining the number of credits that make up an MC, and addressing issues of portability and stacking by aligning different online platforms and using blockchain technology. These will all come together in the form of a digital learning portfolio or learning account called “Europass” to which a learner can upload their accredited MCs (European Commission, 2020).

The European approach is extremely ambitious in its goal to create a common framework applicable to many countries, languages, and institutions. From such a large region with a huge population this paper next turns to a much smaller example, that of New Zealand.

New Zealand

The New Zealand Qualifications Authority (NZQA), which reports to the Minister of Education, recognizes MCs and supports them as a type of alternative educational and accreditation system (New Zealand Qualifications Authority, n.d.). The NZQA (n.d., para 3) has a clear definition of what an MC is: it certifies a coherent set of skills and knowledge; it has a statement of purpose and clear learning outcomes, and there is strong evidence that it is needed by industry or the community. In addition, the NZQA specifies what the registration rules for MC providers are, and provides a step-by-step guide for a potential MC provider to follow in order to be included in the NZQA's register of qualifications. Currently there are three types of providers of MC courses in New Zealand: existing providers such as higher education institutions (100 courses so far); non-regulated providers (five courses so far); and work development councils. This third type of provider is being developed to devise standards for MCs that are approved by employers and industry groups. These are still being discussed and no courses have been created yet (Klinkum, 2020).

While MCs do not necessarily have to be provided online, New Zealand has embraced

digital technology and can respond flexibly and quickly to new developments in online learning, including the provision of MCs. New Zealand's framework shows great promise because it has very clear definitions and simple pathways for MC providers. It also fits into a pre-existing qualifications framework which can reassure learners about the validity of MCs that they earn.

Malaysia

Malaysia has produced a guide to good practice for providers who wish to develop MCs (Malaysian Qualifications Authority, 2020). The Malaysia guide, similar to New Zealand, is a very straightforward and practical document that offers clear definitions of MCs, creates space for them in the current framework ecology, and has an accreditation and portability system for the sharing of MCs.

In the guide it is clearly stated that MCs can be created by unbundling existing higher education courses. Unbundling means that sections of larger degree courses are used as the basis for a shorter MC course (Swinerton et al., 2019). On an optimistic note this is an unequivocal declaration that MCs are part of Malaysia's higher education framework; on the other hand, one of the major criticisms of MCs is that they are a feature of a neoliberal education system which prioritizes the needs of industry over more holistic degree programs. The unbundling of courses is one way in which higher education can maximise profits (Ralston, 2021; Swinerton et al., 2019). This issue will be returned to below.

United States

In the US there is no overall framework guiding the provision of MCs but States are encouraged to develop their own policies backed up with grants. One organization crossing these State lines is that of the non-profit Digital Promise which is federally funded by the Department of Education alongside various donors such as the Carnegie Corporation and the Bill and Melinda Gates Foundation (Digital Promise, n.d.). Digital Promise has developed numerous projects regarding innovative education, and MCs is one of those. The approach that Digital Promise takes is of particular interest to teachers as the MCs they offer are focused solely on the education sector. The 450 MCs that have been developed are extremely specific and very focused; for example, "competency based rubric design" or "facilitating collaborative discussion." It is not always necessary to actually study for the course as there is an assumption that a learner may already have the appropriate experience to prove their competency in a particular area (Digital Promise, n.d.). Learners do this by providing evidence of their competency which is then assessed by Digital Promise. If successful a learner will receive an open badge which they can use as part of a digital portfolio which is hosted by Digital Promise.

As in Europe, the digital portfolio for teachers, called a Teacher Wallet, uses blockchain technology to protect and safely share learners' qualifications. Such digital certification or badging enables a learner to share many more details of their qualifications, including MCs, than is possible with a traditional transcript (Digital Promise, n.d.). Eventually, this kind of transparency about what a learner has studied, what the learning outcomes were,

and how they were assessed will contribute to the wider acceptance of MCs, and is also highlighting the need for existing macro-credential programs to examine how transparent their assessment processes are (Boud & Jorre de St Jorre, 2021).

Discussion

The next section summarises the main themes from the description of MCs, then moves on to link them with the situation in Japan and finishes by listing some criticisms of the MCs trend.

Summary of key points

In the introduction three key questions were identified. This paper will now return to these questions to summarise the key points that have been made so far.

What are MCs and what kinds of courses lead to them?

Although there is no one definition of a MC, most seem to include the notion of a short course which addresses a specific need, especially a skill, which leads to some form of digital certificate. The increase in the popularity of these courses has been accelerated by COVID-19 with digital technology playing a major role in increasing accessibility to courses (Impey, 2020; Shah, 2020). The provision of online courses is a combination of partnerships between higher education, providers, and industry. But as yet there are relatively few examples of all three collaborating at once (Wallace, 2021).

What are the challenges of MCs?

Various countries and agencies are trying hard to validate MCs so that they can meet their full potential. This paper looked at four of those efforts in order to identify common and distinct features. One common key is to develop partnerships and collaboration, especially to generate trust in the MCs process. In Europe this is being achieved inter-governmentally across countries and institutions, whereas in the US there is more of a focus on quasi-government and privately funded collaboration. Again, in Europe and the US the espoused motivation for providing MCs are both to help retrain workers and to solve societal problems (Digital Promise, n.d.; ECIU, 2020); whereas in New Zealand and Malaysia the focus for providing MCs is clearly employment driven (New Zealand, Qualifications Authority, n.d.; Malaysian Qualifications Authority, 2020). In all four examples, digital technology is an important driver of MC development both in the provision of online courses and in the portability of credentials through digital learning portfolios and blockchain technology. Finally, in all four models assessment is a vital component of assuring MCs are viewed seriously, although there are different models for carrying out assessment ranging from in-house provision to external industry and external provider assessment (Fitzgerald & Huijser, 2021).

The next section of this paper describes how Japan fits in the current trend towards MC development. Japan is chosen as a country of interest as it has a very mature higher education sector but so far there has been relatively little discussion of the role that micro-credentials can play in that sector.

Situation in Japan

As Saito (2018) describes, Japan does not have an overarching national qualifications framework that would allow Japanese people to more easily showcase their qualifications both at home and internationally, and encourage a better integration of work-based skills and higher education. Under these circumstances it would be understandable if there were currently little focus on MCs in Japan. However, there is some limited evidence that important aspects of MCs have already been developed in Japan.

Firstly, there are a large number of MOOCs available in Japan through Japan-based providers such as Gacco (gacco.org) and Open Learning, Japan (open.netlearning.co.jp). There are also international partnerships between providers such as Coursera and a range of well-known Japanese universities such as Tokyo University (Coursera, n.d.). Many of these courses are accredited by the umbrella body for MOOCs in Japan, JMOOC, which began in 2013 (JMOOC, n.d.). JMOOC describes all three of its course categories as being mainly developed by universities although in category three companies and enterprises are mentioned. It would seem that there is unfulfilled potential for collaboration between industry and higher education in online courses (Fitzgerald & Huijser, 2021). As was stated above, most MCs that are provided through MOOCs and embedded in the description of a course will have the label “micro-credential”, as was illustrated by the Future Learn French course. However, as yet there is no mention of any of the Japanese MOOC courses being made available as MCs in this way.

Moving away from MOOCs, a second sign of potential for MCs in Japan is that provided by digital badging projects. One example comes from Shimane University where a digital badging system was developed for medical students (Elliot et al., 2014). The purpose of the award was to encourage students to study English medical terminology and promote increased learner engagement and motivation. The authors report that the badging system did have this effect.

Thirdly, Spencer (2019) reported on MCs provided by Microsoft Philanthropies which encourages upskilling of workers in Asia through the provision of MCs. One such project was the promotion of teleworking skills among 200 women in seven Japanese cities. Participants first earned an MC and then worked as interns at partner companies.

In sum, Japan does not have an overarching qualifications framework that could include MCs, but there are signs that if the “micro-credentialing craze” (Ralston, 2020) were to reach Japan, then online providers and universities are well placed to take advantage. And within those universities there are staff that are experienced in digital technology and online education who would be particularly sought after to develop online materials, to assess course participants, and to help create an ecology of accreditation which will encourage trust in the validity of new MCs.

Criticisms

Until this stage this paper has not been particularly critical of MCs but it would be remiss not to highlight various voices that have been raised against the trend, both from a sociological perspective and from practical concerns.

Firstly, there are a number of scholars who are concerned that the rush of public universities in various countries to introduce MCs is reflective of a neo-liberal ideology which

promotes education as a commodity to be sold rather than a public good (Ralston, 2020). It is argued that MCs can be used as a way to discipline universities by pushing them to focus on more vocational skills (Wheelahan & Moodie, 2021). The use of technology is also cited, not as a way to democratize education, but again as a way to commodify it. For example, the unbundling of courses into online units changes education into a market form (Castañeda & Selwyn, 2018). MCs do not have to be accessed online but that form does privilege those with access to digital devices, wifi, and suitable private space. The provision of MCs through online courses means that it may not be so helpful to those on the wrong side of the digital divide (Taylor, 2021).

Secondly, MCs have been criticized because they have not been developed in very practical ways; many mistakes have been made. As Boud (2021) pointed out, there are many MCs from early providers that seemed too short and too trivial to be classed as worthy of being called a credential; they also had no link with other qualifications so stacking was impossible; and they were not assessed rigorously enough.

In response to the above critical points it is clear that MCs, whether one agrees or disagrees with them politically or philosophically, are here for the long term (Brown et al., 2021; Fitzgerald & Huijser, 2021). There has been too much investment in them from all kinds of stakeholders for them to just be a fad or learning innovation theater (Maloney & Kim, 2019). Therefore, it is important that those involved in education, especially higher education, should at least be aware of what MCs are, and for many there may be a much greater hands-on-role in the not too distant future.

Conclusion

This paper has described what MCs are and the kinds of courses that are being developed that lead to an MC. MCs have rapidly expanded in the last few years and the COVID-19 pandemic has accelerated that trend. However, in order for MCs to be widely accepted and used, a number of challenges need to be overcome. Various governments and government-related organizations in many countries are working to create model frameworks and guidelines that will aid a coherent and trustworthy system for MC use. Four such frameworks were examined: the European Union's ambitious plan to link universities in a common credential system across the continent; the much smaller scale but practical frameworks that New Zealand and Malaysia are using to guide higher education institutions and industry; and finally the teacher-centred example developed by Digital Promise in the US. In addition, Japan's potential as a provider of MCs was examined: despite the lack of an overarching qualifications framework Japan has extensive experience of MOOC provision and a reservoir of online expertise in higher education that could help develop MCs in the future.

This paper has shown that the term MCs is a contested one in terms of definition, provision, how they fit into existing qualifications frameworks and so on. However, it is clear that MCs are going to develop further and have greater potential, but how and in what direction is still unknown. Higher education institutions and academics working in online education are in a great position to inform and develop contents of such courses, and help improve their quality, particularly in terms of assessment.

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3

Transitions, bridges and connections: Student reflections on the role of SNS in ERTL in 2020

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Abstract

The COVID-19 pandemic of 2020 transformed the educational spaces and lives of teachers and students worldwide. Students entering Japanese universities in 2020 were particularly affected by this, moving from high school to university during this period, and therefore facing multiple challenges. As part of a larger project exploring how the move to online learning affected them, the participants in this study were asked to reflect on their experiences of emergency remote teaching and learning (ERTL) in 3-minute videos they created and uploaded to the university learning management system (LMS). This paper focuses on one significant theme that proved pivotal during this transition – the use of social network systems (SNS) to bridge the move between school and university. It was found that SNS provided vital support during this time of physical distancing and contributed to student well-being. Students were able to create relationships with their peers through SNS and construct social capital in their new community while maintaining previous relationships and existing social capital.

2020年COVID-19パンデミックは、世界中の教師と学生の教育空間と生活を一変させました。2020年に日本の大学に入学した学生は特にこの影響を受け、この時期に高校から大学に移ったため、複数の課題に直面することになりました。オンライン学習への移行が彼らにどのような影響を与えたかを探る研究プロジェクトの一環として、本研究の参加者は、自分が作成して大学の学習管理システム(LMS)にアップロードした3分間の動画で、自分の経験を振り返るよう求められました。本論文では、この移行期に重要な役割を果たした1つのテーマ、つまり学校と大学の間をつなぐソーシャルネットワークシステム(SNS)の利用に焦点を当てます。SNSは、物理的に距離を置くこの時期に重要なサポートとなり、学生の幸福感に貢献していることがわかりました。学生はSNSを通じて仲間と絆を作り、以前の関係や既存のソーシャル・キャピタルを維持しながら、新しいコミュニティでソーシャル・キャピタルを構築することができました。

Keywords: ERTL, SNS, social capital, well-being, weak/strong ties

Introduction

The COVID-19 pandemic transformed the educational spaces and lives of teachers and students worldwide. According to UNESCO (2020) over one and a half billion students around the world were learning remotely in March 2020 due to pandemic concerns. First-year university students in Japan were particularly affected by this, moving from high school to university during this period, and facing multiple challenges such as moving away from home, restructuring their learner identity from pupil to university student, making new friends, obtaining information about their new environment, and constructing new knowledge without the usual institutional and community support in place, for example, meeting teachers, staff and peers in person and having little or no access to facilities. As part of a larger project exploring how the move to online learning affected them, the participants in this study were asked to reflect on their experiences in 3-minute videos they created and uploaded to the university learning management system (LMS). Using a qualitative approach based on grounded theory the videos were transcribed and significant themes noted and coded. The initial findings were reviewed, and subcategories created. The data was then revisited and refined. Multiple themes emerged (see in Healy, 2021a), and this paper focuses on one pivotal theme during this transition – the use of SNS to bridge the move between school and university. It was found that different types of SNS provided vital support during this time of physical distancing, with students being able to maintain previous relationships and existing social capital while also constructing new ones contributing to their well-being.

Literature review

There are relatively few formal definitions of social media, and its meaning is highly contested partially due to rapid changes in technology. McCay-Peet and Quan-Haase (2017) propose the following broad definition: “Social media are web-based services that allow individuals, communities and organizations to collaborate, connect, interact, and build a community by enabling them to create, co-create, modify, share, and engage with user-generated content that is easily accessible” (p. 17). The term is closely connected with SNS, defined by boyd and Ellison (2008) as web-based services that allow users to:

1. construct a public or semi-public profile within a bounded system,
2. articulate a list of other users with whom they share a connection, and
3. view and traverse their list of connections and those made by others within the system (p. 211).

They emphasize the importance of SNS in creating communities that are based on existing relationships by using the term ‘network’ rather than ‘networking’, whilst providing the means to create new communities by removing offline limitations. In Japan, the term SNS is often used interchangeably with social media. SNS platforms such as Facebook, Twitter and LINE are used differently across cultures to fulfil cultural expectations regarding communication and community building (Ishii, 2017).

Alnujaidi (2017) categorizes SNS into three types: educational such as Edmodo,

professional such as LinkedIn, and social-relational which are used for social interaction, and which are the focus of this paper. LINE, Twitter, and Instagram are the most used social-relational SNS in Japan. LINE is the most popular chat app in Japan, with over 80 million monthly active users, and is used by 60% of the population of Japan (Steinberg, 2020). LINE began as a chat app and has grown into a “super app”. Super apps perform a variety of functions and are more common in East Asia than in Western contexts. In 2021, Twitter had 48 million users in Japan, with 68% of teenagers and 80% of people in their twenties using it, and Instagram had 33 million users in Japan with 69% of teenagers and 68% of people in their twenties being users (Statista, 2021).

Prior to the COVID-19 pandemic, most universities in Japan had LMS, but they were underutilized (Nakamura, 2017). However, after the pandemic began to have an impact and universities moved to online learning, LMS became the main way for teachers to deliver their courses. In some universities, including the one where this study took place, the initial period of online learning was largely asynchronous with limitations placed on the use of synchronous tools such as web conferencing software like Zoom or Webex. Bonnah (2019) noted that the digital structure of Japanese universities is centered on computers and that university LMS do not provide an adequate learning environment. He goes on to say that the cultural context of students needs to be examined more carefully as they are more focused on the use of mobile devices and SNS than more traditional methods. Kihara (2021) reinforces this view, saying that there is a contrast between the digital environments of young people, with low levels of digital use in school and high levels outside school.

Arnett (2000) proposed the concept of ‘emerging adulthood’, which in terms of developed countries such as the USA and Japan spans the years from the end of high school until around 30 years of age. A period of important transitions, such as leaving school and home during which individuals gain independence and develop social and professional skills, can also be a time of great instability and stress (Casey, 2013). The changes experienced at this time are culturally dependent and affected by the social and structural or institutional contexts of young people (Hendry & Kloep, 2007), but by and large, there is an expectation that people will acquire the skills necessary to function as adults in their communities during this period.

Wenger (1998) described communities of practice (CoP) that either evolve or are created deliberately, and which can exist in physical settings or virtual forms (VCoP) (Dubé et al., 2005) when individuals collaborate online. Another type of community is a “mobile community of practice” (MCoP) (Kietzmann et al., 2013), where members communicate with one another via mobile devices, and this is particularly relevant to the creation of communities on SNS. At the heart of CoP is the sense of belonging which is created through interaction with others in actual practice. Wenger et al. (2005) also described three ways to bridge the transition between different environments: people, tools, and relationships. In terms of people, transitions involve ‘social capital’ which refers to “the sum of the resources, actual or virtual, that accrue to an individual or a group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition” (Bourdieu & Wacquant, 1992, p. 14). Social capital affects emotion and well-being.

An approach closely related to CoP is Activity Theory, a contextual approach in which human activity and knowledge is related to collective goal-directed action undertaken by members of a community (Leont'ev, 1981). The theory describes activity systems which are found in organized contexts and include universities. Universities are complex systems with stated and unstated rules that decide the roles and responsibilities of the members and mediate the relationship between the individual and the community and the object/motive of the community (Senge, et al., 2012).

In 1973, Granovetter published his seminal paper proposing that a combination of strong ties and weak ties is needed in society. Strong ties refer to family and friends who provide emotional and mental support, whereas weak ties refer to relationships with acquaintances who can provide practical information and new ideas. Granovetter posits that weak ties are "far more likely to be bridges than are strong ties," linking otherwise unconnected small groups (Granovetter, 1983, p. 208).

Frozzi and Mazzoni (2011) broaden the concept of weak and strong ties to the use of SNS, suggesting that SNS provide support through access to information and the co-construction of weak ties. They also suggest that boundary objects, in this case, SNS support individuals to cross the bridge between different activity systems allowing the extension of knowledge and skills beyond the zone of proximal development. Individuals can achieve greater results by connecting on SNS and interacting with others than by working alone. In other words, SNS can be seen as virtual activity spaces or social environments that enable individuals to access the information necessary to cross the boundary into a new environment.

Additionally, SNS can be characterized as an important tool in maintaining and creating social capital as well as increasing bridging social capital, both relational in terms of student interactions and contextual in terms of belonging to a specific context. Social capital has also been found to correlate to well-being as measured by life satisfaction and self-esteem (Frozzi & Mazzoni, 2011). There are two main approaches to discussing well-being as described in Ross et al. (2020), subjective and objective well-being. Firstly, subjective well-being focuses on personal experiences and fulfilment and includes eudaemonic well-being, which refers to experiencing personal growth and meaning in life, and hedonic well-being, which includes feeling happy and satisfied with life among others. Objective well-being measures quality of life indicators, for example, access to food, income, and housing etc. Another concept is relational well-being which highlights the importance of "the dynamic interplay of personal, societal, and environmental structures and processes" (White, 2017, p. 23). Relational well-being highlights the importance of participation in our communities and the importance of our environment on our well-being.

Social capital can help communities withstand crises, and it has been found that communities which have high social capital are better able to handle emergencies due to trust, norms, and networks (Makridis & Wu, 2021). Even if physical capital is destroyed, social capital can keep communities alive, and so it is vital that we invest in social capital and interpersonal relations "to manage negative shocks and retain levels of interconnectedness and well-being" (p. 15).

The research questions for this study are:

1. Was SNS an effective tool for supporting emerging adults during the transition between high school and university during the COVID-19 pandemic?
2. Can SNS be used to maintain and increase social capital?
3. Can SNS contribute to well-being during transitions?

Method

The participants in this study are first-year students at a national university in Japan. As part of a larger project documenting changes during the initial stage of the COVID-19 pandemic, they completed a questionnaire including demographic information which showed that they are aged between 18 and 21, and the gender ratio is 75% male, 25% female. The students were asked to make 3-minute videos in English documenting their first semester at university and online and upload them to the university LMS. While this was part of their coursework, participants understood that they would not be graded on the ideas or opinions that they expressed. Instead, all who submitted a three-minute video of themselves speaking in English would receive full credit for the assignment. Video data was chosen as it gives participants the opportunity to develop their own narratives (Cooley et al., 2014). They could choose when and where to make their videos, when to turn the camera on and off, and whether to edit or re-record their videos. Informed consent was received from all the participants, who could opt out at any time. A total of 296 videos were watched and transcribed using the software Otter.ai. The transcripts were checked manually and then analyzed using Otani's (2008) Steps Coding and Theorization (SCAT) method, a qualitative data analysis method based on the grounded theory approach (Glaser & Strauss, 1967). Firstly, the transcribed text was explored, and significant themes were noted and coded to identify similarities and concepts. These initial groups were reviewed, and subcategories were created and titled. The subcategories were then revisited and consolidated, and the categories refined. The final step of the SCAT methodology is the development of a storyline to connect and explain the emergent themes and constructs. This study focuses on one theme, the role that SNS played during ERTL in the initial stages of the pandemic.

Results

From the data, it was found that most of the participants generally agreed that SNS played an important role in maintaining contacts, creating new ones, and constructing knowledge related to their university life and studies.

Healy (2021b) found that the most common SNS apps used by the students surveyed at this institution are LINE (99%), Twitter (83%), and Instagram (61%). Students regularly used SNS for their university lives during the initial months of the pandemic as one participant commented, "I use SNS every day to help me with my assignments" (S102). Participants reported differentiating between apps according to their purposes, and to participate in various communities or activity spaces. LINE was mentioned by 75% of the participants as being used between friends and family, but also 42% noted its use in an educational context, most often in class groups. A representative example of this is, "If I have problem, I ask my teacher or friend on LINE" (S17). Thirty-eight percent of the students noted using

Twitter for general university news, for example, “I use Twitter to keep up with university information. In my course the teacher made LINE and we all belong to it” (S11). Instagram was generally reserved for friends as seen in this comment, “I use Instagram with my friends. And LINE for my school friends and university friends” (S24). Movement between platforms indicate changes in the relationships and interaction of the participants, for example, “I use Instagram with my friends from school. In the future I want to use Instagram with my university friends too” (S43).

Looking further at the data, five themes emerge.

New classroom communities

The participants described a wide variety of lessons during the ERTL period, from those with little or no interaction, in which, for example, participants received a PDF to read through, to more interactive styles of classes using online video call applications like Zoom or Webex. They also reported a great deal of diversity in the types of participation favored in their new academic communities. The flexibility of interaction and the different types of presentation of materials allowed students more control over their learning environments with most students commenting favorably on the use of SNS, in particular LINE, as a method of support and participation in their new learning spaces. LINE was used to ask the teacher questions, for example, “I like on-demand class, and LINE if I need to ask questions” (S135), receive information from teachers, discuss class topics in groups, receive materials, get help from other students, and make friends as can be seen in this comment: “My teacher made a LINE group, and then I made friends and made another group” (S127).

The relationship between teachers and students is vital to academic success, but also to the well-being of both. During the ERTL period, when neither teachers nor students were allowed to go to campus, this relationship had to be reviewed and reconstructed. Because Japanese students are often not familiar with email (Shrosbree, 2016), which is more formal than SNS, SNS provided a useful way to connect due to both its informality and flexibility. It provided a new activity space for teachers and students to participate and collaborate in, fulfilling some functions of the physical classroom that the university LMS was unable to provide due to its lack of flexibility. Many students discussed LINE in their videos (43%), and 35% mentioned using it for communication with their teachers, as these comments show, “My English teacher has LINE group so we can talk anytime and ask questions. It is useful and I don’t worry” (S211), and “I talk to my teacher on LINE and it is good for me because I worried not see teacher” (S76).

Extracurricular club activities

Participants reported having been unable to participate physically in club activities during the ERTL period. Fifty-five percent mentioned the lack of physical access to club activities, and 46% discussed using SNS to contact other club members. Comments included “My club can’t meet so we talk on LINE about what we do in the future” (S67). One student who joined Twitter specifically to have access to the baseball club, reported “I just want to enter the baseball club. The baseball club only have a Twitter account. I use Twitter for that” (S7). van Ommen (2015) describes the importance of extracurricular school or university clubs known as *bukatsu* in Japan, and the role that such activities play in both generating social

capital and preparing students for the future work market. He reports that long-term participation in organized sports generates cultural capital that can be used for future job hunting. Because the participants in this project were unable to take part in club activities, they may go on to suffer from not only a loss of social capital but also cultural capital in terms of future job opportunities.

Junior–senior relationships (*senpai–kōhai*)

The hierarchical system referred to as the *senpai–kōhai* system has been found to be particularly important for first-year students in junior and senior high school and university (Ono & Shouji, 2015) to bridge the transition into their new activity spaces. In this system, senior (*senpai*) members of society are viewed as holding higher status due to being more knowledgeable and experienced than junior (*kōhai*) members. In addition, *senpai* are charged with taking care of their *kohai*, supporting them, and providing opportunities for them. It is an important part of knowledge transfer, and a basis for social organization (Qie et al., 2019), providing a way for social capital to be created.

Due to the move online, the participants in this study were unable to engage in this kind of interaction and their experiences were largely unguided by their *senpai*. Like club activities, *senpai* also provide social and cultural capital, however, whilst clubs used SNS to create new spaces for the first-year members, *senpai* from their academic communities were not able to do the same thing as interaction is on a more individual level. Thirty-one percent of participants expressed distress and disappointment at being unable to interact with their *senpai* noting, “Reducing opportunities for interaction with seniors is a terrible blow” (S65). They also discussed the impact they felt it was having on their future studies, for example, “I feel sad that I cannot connect with *senpai*. How do we go forward?” (S82), and “It is difficult to communicate with teachers and seniors and so it is hard to choose future classes” (S175).

Managing SNS

For many people, it has become increasingly difficult to separate work or school life and home life especially during the COVID-19 pandemic when people were at home more (Evans et al., 2020). Seventy-eight percent of the participants stated that due to being online the divisions between school and home had blurred with school dominating their time. SNS usage also changed during this time: “I used to use Twitter for friends, but now I use it for university information and I don’t Tweet anymore” (S212), and “Before LINE was for friends, now I use it for study and so both. It means friends life and university life are overlap” (S165). Participants were also still learning how to manage the different groups they virtually participate in, trying to balance their personal and impersonal spaces as the following quote exemplifies:

You know, in LINE, I have about 200 *tomodachi* (friends). And, you know, I want to make more, personal spaces. I think if I use Instagram or Twitter, it’s gonna be more impersonal. I want to make more, you know, personal spaces too. Both of them, impersonal and also personal one. I want to protect my personal spaces, but I want to broaden my impersonal spaces too (S1).

While few students (3%) reported not using SNS in the university context, non-participation was found to have a significant effect on social and academic development, and personal well-being. The following quote exemplifies how important a role SNS can play in the transition to university, creating a sense of belonging and a feeling of well-being:

There are some people who have friends on social media, but I was late to start social media so I don't have friends from the same university on social media. I think I was completely late to make friends, so the slower I go to college the more afraid of going to college it is, because I think that it will be difficult to make friends. I can't talk about assignments because of not having friends so I am worried about my assignments which is given in large quantities (S166).

Emerging adulthood, well-being and SNS

Part of the transition from school to university for many students is moving out of their family homes to live alone. This transition can be stressful as students need to manage a variety of everyday life tasks for the first time, without physical interaction and support from the strong ties in their community. 'Difficulty in living' is a translation of *ikizurasa*, and is a new concept that has emerged in recent years in Japan (Otsuka & Anamizu, 2019), but has not yet been recognized in Western literature. It refers to lower self-esteem, feelings of depression, and suicidal ideation or thoughts, which Joiner et al. (2009) describe as arising from 'thwarted belongingness', the state and feeling of isolation, and 'perceived burdensomeness', the view that one's own living is burdensome for others. Otsuka and Anamizu (2019) found that feelings of self-insufficiency can lead to suicidal thoughts for Japanese students regardless of their perceived burdensomeness to others. The majority of participants reported some negative feelings during the pandemic, with 93% referring to feelings of isolation and loneliness or a thwarted sense of belonging for instance, "I don't feel like a university student or anything" (S98), a perceived feeling of burdensomeness, "I don't want to say to my family how I feel. I can't tell my friends." (S168), and a sense of insufficiency, "I feel bad. I not do assignments and they are too many. I don't have talk. I don't know what to do" (S213). However, through SNS they were able to maintain virtual support to help them adapt to their new environment, for instance, "I talk to my family everyday on LINE and they help me with everything I don't know" (S169). Another participant described her friend filling this role: "Me and my friends talk about our cooking and send pictures so I can learn a lot about cook. I never cook before" (S33).

Discussion

The transition from high school to university places many demands on individuals and impacts their well-being, particularly in terms of social capital. The emerging adults in this study found that SNS provided an important method of interaction and source of support during the transition to university, for example, the use of LINE to keep in touch with their families, and in the creation of new classroom communities. These classroom communities, or CoP, provided a sense of belonging through online interaction.

The relationships that are created on SNS are usually characterized as weak ties, however,

Granovetter (1983) suggests that during certain periods weak ties can play an important role by providing access to information that strong ties cannot. During the COVID-19 pandemic, the weak ties provided by SNS were vital to the students' participation in their new communities and activity spaces. One example of this is that they were able to find out information related to the university via Twitter that would have otherwise not have been easily available.

boyd and Ellison (2008) stated that often SNS networks initially develop around existing face-to-face networks which then expand, but during the pandemic this was impossible and so communities were created solely in a virtual environment. We can see from the students' reflections that they perceived these weak ties to be transformable and as possibly forming the basis of strong ties in the future. They indicated this by imagining moving individuals from one platform to another, for example, S43 said they would like to move friends from LINE to Instagram, which they viewed as more personal.

The participants were able to make new acquaintances and start to build new networks as shown by their use of SNS in their new classroom CoP. They were also able to create new social capital through their extra-curricular activities. Making SNS a more central part of university life could provide a smoother transition for students into the university context. It could also help provide support for students who are feeling 'difficulty in living' by helping students to overcome feelings of isolation and despair.

University LMS alone may not be adequate for online learning (Bonnah, 2019), and the incorporation of SNS can provide an important way to support students and teachers in online environments. The data suggests that different platforms are presently used to fulfil different communicative and community roles, so multiple tools may be necessary. The participants in this study reported using Twitter to obtain general information about the university and using LINE in their classes. In LINE, users can create closed groups, and the interaction takes place in the form of conversations. On the other hand, Twitter is a more open platform and may be a better tool to collaborate across groups. For example, it may provide a way to connect senpai and kohai in different academic years and class groups.

Japanese students have high levels of familiarity with SNS, which are inexpensive and easy to use. These systems can provide flexible support, enhance participation and foster communities, for example in extra-curricular activities, but there is a need to be aware of how the use of SNS may change the roles of students and teachers, as the classroom is no longer the focus of communication. Both teachers and students will need to become used to their new roles in this changing environment. For everyone to benefit from the increased use of SNS, more education and training is required on their effective use.

The drawbacks of using SNS seem to be few, although there are ethical issues in terms of privacy and security. University LMS can be monitored more easily than SNS. When using SNS the boundaries between private and public spheres may become blurred and, as some participants mentioned, they had some difficulty managing this. Importantly, those students who do not participate in SNS and the communities created on them may lose out on the creation of cultural capital they allow.

Conclusion

Emerging adulthood is a period of life characterized by various transitions such as matriculating and leaving home. Difficulties surrounding these transitions were exacerbated by the physical limitations and barriers engendered by the COVID-19 pandemic which curtailed the creation of communities of practice and the development of social capital. Through the grounded theory analysis of video data from Japanese university students, this study examined how SNS helped students to maintain contact with their prior communities whilst also enabling them to construct new ones, thereby maintaining and creating their social capital. The findings strongly suggest that universities and teachers should work to better understand how SNS can be optimally used in future to scaffold first-year students' transitions into their new activity spaces.

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4

The negative impacts of student use of online tools during emergency remote teaching and learning on teacher–student relationships

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Abstract

This article focuses on the importance of establishing and maintaining relationships between teachers and students for the mutual benefit of both groups and explores this in one context during the Emergency Remote Teaching and Learning (ERTL) period in the first COVID-19 pandemic lockdown in 2020. Ten instructors of university English as a foreign language (EFL) academic writing were interviewed about their experiences during this period. All questioned the academic honesty and ethics of their students due to what seemed to be their impossibly rapid progress in linguistic complexity and correctness, and the depth of ideas expressed growing very quickly. Due to communication between teachers and students being limited to text-based messages on the Learning Management System, teachers were unable to investigate without potentially causing university disciplinary action to fall on their students. This led to a worsening of relationships and spiraling levels of distrust. Forty first-year students were then asked to submit three-minute videos explaining how they undertook their homework assignments during the 15-week semester. Participants reported using a variety of technological assistance, particularly Machine Translation (MT) and online grammar checkers, to prepare assignments for submission. Findings suggest that educating instructors about how appropriate usage of such technology can benefit student learning could help prevent misunderstandings about unethical technology usage. Similarly, by recognizing the value of the relationship between instructors and students, time can be spent on building and fostering these bonds.

この論文では、教師と生徒の関係を確立して維持することの重要性に焦点を当て、両方のグループの相互利益のために、2020年の最初のCOVID-19パンデミックロックダウンの緊急遠隔教育および学習 (ERTL) 期間中にこれを1つのコンテキストで調査します。外国語としての大学英語 (EFL) アカデミックライティングの10人のインストラクターが、この期間中の彼らの経験についてインタビューを受けました。全員が、学生の言語的な複雑さや正確さがあり得ないほど急速に進歩し、表現される考えの深さ

が非常に速くなっているように見えたため、学生の学問的な誠実さや倫理観に疑問を抱いていた。教師と生徒の間のコミュニケーションは学習管理システムのテキストベースのメッセージに制限されているため、教師は大学の懲戒処分を生徒に負わせる可能性なしに調査することができませんでした。これは人間関係の悪化と不信のスパイラルレベルにつながりました。次に、1年生の40人に、15週間の学期中に宿題をどのように行ったかを説明する3分間のビデオを提出するように依頼しました。参加者は、提出用の課題を準備するために、さまざまな技術支援、特に機械翻訳とオンライン文法チェッカーを使用して報告しました。調査結果は、そのようなテクノロジーの適切な使用が学生の学習にどのように役立つかについてインストラクターを教育することは、非倫理的なテクノロジーの使用についての誤解を防ぐのに役立つ可能性があることを示唆しています。同様に、インストラクターと学生の関係の価値を認識することにより、これらの絆を築き、育むことに時間を費やすことができます。

Keywords: teacher–student relationships, Emergency Remote Teaching and Learning (ERTL), on-demand classes, trust

Introduction

The sudden move online undertaken by institutions around the world in response to the escalating COVID-19 pandemic brought dramatic changes to the lives of both teachers and learners. Just as teachers quickly relearned how to run their courses and classrooms, students learnt new ways of getting things done. These changes affected the ways that relationships formed between teachers and students, impacting both groups. While positive relationships have long been “associated with optimal, holistic learning” (Cornelius-White, 2007, p.113) for learners, more recent research also connects them with teacher well-being. The present article explores the ways that the Emergency Remote Teaching and Learning (ERTL) period changed the ways that a group of instructors of L2 academic writing approached relationships with their students, and the ways that these changes affected them. The on-demand nature of the course, which precluded synchronous contact, resulted in poorly established teacher–student relationships that were insufficient to overcome what had in previous course iterations been interpreted as plagiarism or inappropriate Machine Translation (MT) usage (see Kennedy, in press).

This article is part of a larger research project investigating the intersection of the teaching of L2 academic writing and the ways that teachers and learners use technology during this process. Two data sets were collected: interviews with ten instructors, and reflective videos made by forty first-year university students. Here, the focus is on the instructors, with data from the student videos illuminating findings from the instructor interviews. In regular face-to-face teaching contexts, attachment theory and emotional resonance are the basis of positive teacher–student relationships. In this context, such relationships were found not to have formed due to the lack of opportunity to interact and bond. The instructors’ difficulties with this in the new on-demand environment are explored.

Positive teacher–student relationships

A positive teacher–student relationship depends on many variables. While much research focuses on how students view this relationship, with the highest value consistently placed

by students on teachers who are seen to care about their students (Phelan et al., 1992) and relationships that comprise closeness, support, liking, warmth, and trust (Roorda et al., 2011), there is little exploration in the literature of how the relationship is viewed from the teachers' side. Wilkins' (2014a, 2014b) investigated what defines a positive relationship from both perspectives, surveying both teachers and students, and therefore provides a useful framework in this context. While her work studies an American high school population, her observation of both stakeholder parties and acknowledgement of the multi-dimensional nature of the issue is rare in the literature. A principal components analysis of Wilkins' student survey identified a seven-factor structure. Teacher attributes found to contribute to a positive relationship were: (a) providing academic and personal support for students, (b) showing concern for and interest in students, (c) motivating students and attending to their personal interests, (d) treating students with respect, (e) being compassionate to students, (f) being accessible to students, and (g) understanding and valuing students' opinions and feelings. Many of these attributes come under the umbrella term 'caring' as initially outlined by Phelan et al. (1992). In Wilkins' teacher survey, three student behavioral factors that teachers viewed as contributing to a positive relationship were found: (a) demonstrating engagement and interest in schoolwork, (b) being respectful, rule-abiding, and cooperative, and (c) demonstrating positive social behaviors.

Attachment theory and emotional resonance

A positive teacher–student bond has parallels with the relationship between children and their first caregivers (Roorda et al., 2011). When infants are secure in their relationship with their parent(s), they are confident to explore their world (Blatz, 1966), and when they are cared for by a teacher as they were ideally cared for by their parent(s), they form a similar reliable bond. This in turn gives them the confidence to take risks, move out of their comfort zones and make academic progress (Carmona-Halty et al., 2019). A positive teacher–student bond is therefore seen to support student learning and achievement (Allen et al., 2018; Holzberger et al., 2019; Mainhard et al., 2018; Pianta et al., 2012; Roorda et al., 2011). Teachers who show empathy and warmth to their students are strongly associated with positive learning outcomes for them (Cornelius-White, 2007).

Poor teacher–student relationships have been recognised for decades as a predictor of teacher burnout (Corbin et al., 2019; Friedman, 1995; Phillips, 1993) and educator cynicism (Grayson and Alvarez, 2008.) Conversely, research suggests that positive relationships with students can both reduce stress levels for teachers (Cohen & Willis, 1985; Gugliemi & Tatrow, 1998), and play an important role in teachers' emotional experiences of their teaching (Hagenauer et al., 2015). The World Health Organization (2018) defines mental health as "a state of wellbeing in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully and is able to make a contribution to her or his community" (para. 3). While the impact of the quality of teacher–student relationships on teacher wellbeing has been considered, it has not been seen to be an important component of it (Corbin et al., 2019; Friedman, 2000; Kyriacou, 2001; Spilt et al., 2011). This is despite the centrality of this relationship to the work that teachers do, and how much teachers typically consider their relationships with students when making choices in how to conduct lessons (Hargreaves, 2000).

Method

The data was collected at a nationally funded university in Western Japan (see Kennedy, 2021, in press) in 2020 at the end of the first semester conducted during COVID-19 restrictions. All ten instructors interviewed for the project hold post-graduate degrees attained in English in the liberal arts, speak English at native level, and have taught English for Academic Purposes at universities in Asia for between 12 and 31 years. The course they teach quickly progresses through a range of writing competencies. Students are first taught how to structure an academic paragraph correctly and move from there to problem-solution essays and finally five-paragraph essays. They are taught to cite sources within their writing, paraphrase appropriately and list references. Feedback is provided regularly, with instructors reading, commenting on, and returning student work each week. While the functions of language are focused on, rather than linguistic correctness, instructors also alert students to grammatical or spelling errors or word choice problems. Explicit guidance about academic integrity is given in Japanese during the orientation process, and students understand that in the course described here, the ideas, structure, and language of submitted work must all be original. Students are explicitly told that they may not submit text translated by MT because the grades that they achieve rest partially on the linguistic accuracy of texts they submit. As such, they are warned against writing in their L1 (Japanese), pasting paragraphs into an MT website, and pasting the resulting L2 (English) text into their assignment. Students are encouraged instead to write directly in L2, then to check their writing for grammatical and lexical errors. They are told that this method will result in their both gaining L2 academic writing skills and improving their productive language skills. Students are warned that the use of MT to translate L1 passages will result in them losing valuable opportunities to both foster their ability to think in L2, and to reflect on the language that they produce. Instructors are familiar with these issues and have developed proactive methods to guide students away from academic misconduct, and gentle, non-punitive methods of addressing it should it happen (see Kennedy, in press).

The university that they teach at is highly ranked academically, and its entrance examinations, grueling. Students work hard both to matriculate and graduate, with approximately 33% of the intake each year facing one or more years' extra study between high school and university admission as is common in Japan in prestigious national universities (Goto, 2020; Ono, 2007). Teachers maintain a consistent program of formative and summative assessment throughout due to a combination of continuous assessment and end-of-semester examinations. This fosters student engagement (Holmes, 2015), improves learning outcomes (Rezaei, 2015) and increases opportunities to give feedback to students (de Kleijn et al., 2013). Students have an average Test of English for International Communication (TOEIC) score of 570, which equates to approximately B1 on the Common European Framework of Reference for Languages scale.

In the first semester of 2020, the course was delivered entirely on Moodle, the university Learning Management System (LMS), due to public health guidance to reduce the spread of COVID-19. Instructors were given two weeks to find ways to deliver the course content via a medium that most had previously not used. Students were equally unfamiliar

with the system as LMS are not generally used in public high schools in Japan. A university mandate to ensure equitable access was wide-reaching: students should be able to complete all activities without access to unlimited Wi-Fi, and at any time during the week, with only one deadline each week. As such, online streaming activities like Zoom were not to be included. Nor were tasks such as class discussion board activities because some students would be advantaged over their peers. Instructors therefore uploaded videos of themselves teaching and provided links to existing materials online. They scanned and uploaded materials and found ways for students to do pair work activities alone. Students completed assignments asynchronously each week to replace regular classroom lessons and accompanying homework, spending a recommended 4.5 hours each week.

Semi-structured interviews took place to collect data via the Zoom platform. Following the example in Edwards and Holland (2013, pp. 56–57), a topic guide was prepared using the process outlined in Luker (2008, pp. 168–171). This interview structure was chosen to acknowledge the fact that “individuals understand the world in varying ways” (Luo & Wildemuth, 2017, p. 260) and allow the researcher to explore each interviewee’s worldview. Interviews began with questions about instructors’ academic backgrounds and moved through their experiences of first learning, and later teaching students, to write. Finally, pedagogical choices were explored with each interviewee.

A total of forty students were asked to submit videos made using their smartphone cameras in Week 15 of the course. Students spoke facing their cameras and talked about their strategies to perform the academic tasks required of them during the ERTL period. They structured their videos according to the same principles as a five-paragraph essay, and tried to speak in natural, unrehearsed L2. They were instructed not to write a script, but rather to prepare a brief outline in note form rather than full sentences to speak from. They understood that the opinions or strategies that they discussed in their videos would not affect their final grade, but that their structure, logic, and fluency would be assessed.

Transcripts of both instructor interviews and student videos were coded and analysed using the Steps for Coding and Theorization (SCAT) method (Otani, 2008), a four-step approach in which important words and phrases are identified, progressively refined, and finally combined to allow for a thorough understanding of the data.

Both student and teacher participants gave informed consent for all material collected to be used for research purposes, signing digital forms in either Japanese or English. One instructor asked that some parts of his interview be redacted as they were not directly pertinent to the research project, and this has been honored.

Results and discussion

This section first presents the key findings from the instructor interviews that relate to teacher–student relationships and their formation, and how the medium of instruction during the ERTL period impacted both of these.

Whereas for learners, the ‘children’ in the attachment theory model, being cared for and nurtured is important, teachers are socialized to assume the role of nurturer in the teacher–student dyad (Phelan et al, 1992). As such, many of the instructors interviewed described how “making a difference in someone’s life” or helping a young person “make

a decision that was really important to them”, caused them to feel good about their work, and, for two instructors, remember teachers who had guided them in the past. This idea of nurturing students as people was raised by seven interviewees. Nurturing students’ L2 academic writing skills was raised by five interviewees. For example, one instructor talked about the moment that a student suddenly comes to understand a key concept in class: “Seeing that lightbulb moment is always such a rush. There’s nothing like it.” Her pleasure is not only in witnessing the learning that she has fostered her student to achieve, but also in taking part in it with her student, leading to a feeling of emotional resonance and connection.

For nine of the ten instructors interviewed, the choice to teach initially came from a desire to connect with people and it was this desire that brought two participants back to the classroom after leaving it. One described wanting to return to teaching to “be back in the world” after her children started school. The other talked about how in company life colleagues were unwilling to interact, and that he missed “kicking a conversational ball around” in the way that he had done when teaching. His return to the classroom from the dry office environment was “so good. It just felt so much more right.” In Japan, where few have communicative competence in English (Morita, 2017), the opportunity to use English during class was also relished as a chance to communicate. “My Japanese simply isn’t as good as my English. I mean, I can get by, but it makes it really hard to gel with people.” His use of the verb ‘gel’ here has parallels in the word choice of several other instructors, who talked about the joy of being, for example ‘in sync with’ students, and really enjoying being in the classroom with students who shared a similar ‘vibe,’ ‘wavelength’ or ‘feel.’ Their language usage echoes the emotional resonance that they are describing without naming it explicitly. At the heart of their impetus to be in the classroom is the desire to make connections with others.

These nine instructors had come to expect bonds to form naturally through the normal interactions of the classroom and were, as one described it, “blindsided by the move on-line.” While they expected there to be difficulties in learning to work with new technological tools in the online environment, they did not foresee that the relationships that formed the very foundations of their teaching lives would be threatened by the new medium of instruction. The following sentiment was expressed by all but one of the instructors interviewed:

I was totally focused on getting all the materials onto Moodle [the LMS]. Scanning stuff in and making sure that I attached the right file in the right place and setting the right deadlines in the calendar. I didn’t even once think about getting to know the students in my classes. I really wish that I had done it differently, started out differently, set it up differently.

For these teachers, motivated by a desire to connect with people, the forced separation of the ERTL period was very different from previous courses. Instructors talked about how, for example:

The first day in class I normally do warming-up and getting-to-know-you activities. I thought they were for the students, to make them feel comfortable with each other.

But, and I didn't really realize that I was actually doing this, but I was listening, and watching them, and seeing them responding to one another. Getting a feel for the sort of people they are. This year there's been none of that. I have no idea who anyone is.

Another instructor talked about how with previous intakes he made time during the first few lessons of the semester to "read the vibes, both of the class as a whole, and to try to, you know, get a feel for each of the students individually." A different instructor described the process with an analogy, saying:

It's like you have their names on a list, then when you meet them, you hang their face, mentally, on their name hook. Then each time you talk to them, or they tell you something, or whatever, you hang it on that hook. You gather up all this stuff about them, and you have a place to, mentally I mean, put it.

The words shared by this instructor seem to sum up what many were feeling: "Putting names to faces is one of the things that starts on the first day of class. Without it, without that first day, I just had no idea at all." Many instructors talked about how they didn't feel that they knew their students: "Knowing the students, it's not about remembering what sort of music they like, it's more about how they are with each other. You can tell a lot about someone by watching how they listen to their partner in pair work." Without being able to quietly observe his students, this instructor was unable to form organic understandings of them as people. "I don't even know what they look like," he then said, sighing.

On-demand teaching without synchronous feedback was described by one instructor as teaching "into the abyss," akin to another instructor's comment that, "I don't know how they look at me." Asked to clarify, he explained:

When you're in the classroom you can always tell if they understand, if you're on the same wavelength, if they're getting you. Without any feedback, you can't teach.... It's instant, it's visual, it's visceral. You can see it in their eyes, their expressions, where they're looking, if they're leaning forward to listen.

A similar sentiment was described by another instructor, who used an analogy to describe her feelings:

I didn't feel like a teacher. I felt more like an actor, like I was suddenly going on stage, blinded by the lights. I couldn't see them at all, the audience, you know, the class, and there was no reaction: I couldn't see their faces, see whether they were following me, see if they were okay.

The final phrase of her analogy makes it clear that she is aware of the role that she is expected to play as the students' teacher, their nurturing caregiver. Without the chance to spend time together in the physical, or even synchronous virtual, classroom, however, interpersonal bonds did not form.

Without such bonds, the instructors found themselves acting more reactively and unequivocally than in the past when faced with issues surrounding academic integrity. They were more suspicious of student work, and more emotionally affected by it. All ten

instructors talked about their ability to recognize problematic work. For example, “My Spidey-sense lets me know every time” and “It’s hard to explain how I know, but something just feels off.” Another explained how she tries to rationally process what she called this “niggle”:

I think about how they are during pair work, and when they talk to me. I’m looking for the same level of confidence in the writing as in the way they are in class. When it doesn’t match, when there is a forcefulness in the writing that isn’t there in class, that’s when I know.

Another instructor brought it back to language: “If they can’t tell you that their bus was late, then they’re not going to be able to write 400 perfect words. There’s just no way.” One instructor laughed and quoted Judge Potter Stewart: “It’s like porn, I know it when I see it.”

In the new online environment, however, instructors found themselves questioning the integrity of student work more often, but unsure as to their reasons for doing so. Without classroom observation of casual L2 language usage to compare the submitted work to, their suspicions seemed groundless and unreasonable. This led to a sense of self-doubt for four instructors. “I’d always thought of it as an instinct before... it was utterly reliable.” Another reported a loss in confidence, saying, “I don’t think I’ve ever got it wrong before, but when we were on-demand, I dithered backwards and forwards.” “I wondered whether I was going a bit mad. Suddenly it seemed as if they were all either copying from one another, or they’d all found someone to do their homework for them.” Instructors were preoccupied by their suspicions.

Eight instructors compared how they dealt with a suspected case of non-original submission before and during the ERTL period. A common initial step ($n = 7$) was previously taking “a kid aside at the start of class and ask[ing], you know, what was going on.” Without “any unpleasantness” or direct accusation, five instructors reported simply showing the student their assignment and waiting for the student to respond. The student’s demeanor was often enough to show that the student was aware of what they were being indirectly asked. One instructor talked about:

wait[ing] till they’re ready to lead where the conversation needs to go. So, sometimes that’s an apology, and sometimes it’s a justification, and sometimes... it’s tears, or them quickly packing up their things and getting themselves out of there. Sometimes it’s all those things.

One instructor has a prepared script that he uses that “makes it clear to them that it’s clear to [him] that they haven’t written it” to protect himself from potential disciplinary action should the student make a complaint. After this initial first step, “I usually ask them what they think should happen next,” said one participant, continuing, “They don’t want trouble, so they often just take their assignment off my desk, and say something like, “I’ll start again.” This strategy of allowing the student to suggest the course of action was reported by six participants. When a student did not suggest a course of action, instructors told them either to rewrite the whole assignment ($n = 5$) or the offending parts of it ($n = 3$). Four participants described resubmission on a tight schedule set by the instructor as being important in reestablishing trust. In contrast, another instructor talked about how rather

than do this he “let them get on with it and do the right thing,” which he, in turn, felt would rebuild the trust lost. “That way, they show you that they really want to be there, deserve to stay,” he said. By allowing their students another chance, these teachers are carefully nurturing their students.

All talked about the importance of understanding what motivated the student’s behavior. One instructor’s sentiments were echoed by six others: “For me it’s not about punishment, it’s about making sure that it doesn’t happen again.” Asked why, the instructor continued:

They’re plagiarizing, or using MT, either because they’ve run out of time to do their homework, or because they don’t feel that they can do it, or because they think that I’m not going to spot that it’s someone else’s work. All of those things need to be dealt with. Otherwise, it’s just going to happen again.

By recognizing that these issues need to be addressed rather than punished, the instructors were working within the nurturing, caring facet of the teacher role.

It should also be noted that several ($n = 6$) of the instructors interviewed talked about using MT as L2 Japanese speakers living in Japan, describing the benefits of tools like “a widget on [Google] Chrome that automatically lets me read Japanese websites in English” and a smartphone application that lets the user “just point the camera at Japanese text and [have] it morph[...] into English words.” One instructor talked about how much easier it is to communicate with university administrative staff now that written information can be so easily processed from one language to the other: “DeepL saves me, and the staff in the office, so much time and bother.” None of these six participants described using these tools to better their L2 skills, with one describing rather how she no longer feels the need to work on her Japanese skills: “it’s as if a burden has been taken off my shoulders.” She went on to describe how difficult she had found learning Japanese as an adult beginner, and because of the differences between it and more familiar, European languages. This was a theme that several ($n = 4$) instructors mentioned. None acknowledged that for their Japanese students, English is similarly foreign. Instead, they assumed that their own relief finding how MT removed the necessity for laborious translation and eased communicative difficulties would be similarly felt by their students, and would result in them, too, abandoning L2 language-learning efforts.

As previously noted, during the ERTL period instructors were unable to talk to students about the work that they suspected to have been copied or machine generated in an informal manner because the only communication was via written message via the LMS. This was problematic for four reasons. Firstly, the instructors’ strategy of standing next to the student and waiting for them to either capitulate or explain rested on physical presence, and the synchronous passing of time. A written message does not allow for either of these. Secondly, while a teacher asking a student about the academic integrity of their work is a serious matter, the formality of written rather than spoken communication means that many felt that the first, familiar, more intimate step of talking about the problem had been omitted. Thirdly, text-based messages are also easily misinterpreted (Hertlein & Ancheta, 2014), and the level of intensity of the writer’s intention misjudged (Hernandez, 2021). Finally, everything that is posted on or uploaded to the LMS becomes an item of

permanent record that might affect the teacher, the student, or both, adversely in the future. As such, instructors were reluctant to write to students about their suspicions, with one noting she was hesitant to “put anything in written form. I didn’t want anything to come back and, you know, cause a problem.” Asked what she meant, the instructor explained that putting something in writing made her vulnerable to criticism from the university administration should a student complain.

Again, showing the caring, nurturing, protective aspect of the teacher role, the same instructor and one other worried that writing a message to a student about academic integrity on the LMS might blight their academic record. These two instructors took different courses of action. The first, despite her misgivings, wrote to a student who she felt was making “literally unbelievable leaps and bounds” in his learning. She tried to follow her usual procedure of showing rather than telling the student the problem. As such, she returned his assignment to him on the LMS having highlighted all the grammatical and spelling mistakes in one part of the essay and drawn a large rectangular box around another similarly sized “perfectly unblemished” area of text. In her accompanying message, she asked the student to explain why there were so many errors in one part of the assignment and not in the other. The student’s reaction was effectively to drop out of the class by no longer submitting the weekly assignments. While he was accessing the course frequently, sometimes twenty or more times each day, he was not interacting with the material that she posted on the site. Initially concerned for him, she sent messages of reassurance, but these received no reply. Even a request for him to make contact sent through Student Services was ignored. His behavior came to seem “more and more threatening.” “What was he planning? How could this pan out?” “I found myself really doubting my treatment of him. Had I screwed up?” Her effort to transfer her regular classroom methodology into the on-demand medium was not successful and led to a period of intense self-doubt. When other students in this instructor’s classes showed similar evidence of the use of MT, online grammar checkers or perhaps simple cut-and-paste from the Internet, she pretended not to notice.

The other instructor who was concerned about the potential impact of a virtual paper trail implicating a student in an academic misconduct problem decided to ask her classes about how they were performing the academic writing tasks that she set for them each week rather than accuse them of something and potentially damage the teacher–student relationship. She assigned a three-minute video presentation task and asked that students describe their writing processes, and this data forms the second data set for this article. Her students reported making use of a wide range of tools to support their learning and spoke candidly about developing processes to not only streamline their work, but also to deepen their learning and make it more personally satisfying. They described using paper, electronic, and online dictionaries, and online concordances, proofreading their work with online grammar sites, and translating L1 sentences with MT before paraphrasing them or swapping out unfamiliar vocabulary. A subset of learners also described using MT for whole document translation at the end of their writing process to check their work before submission. Several of these students expressed thoughts like, “does my essay truly communicate my opinions?”, and “I use a translation site to make sure one more time it is truly my ideas.” (Student quotes have been left unedited to reflect their authentic voices.) The

more of these tools that learners reported using, the more significant improvements they reported in their confidence in L2 writing ability.

Other students talked about how much time they spent on the assigned tasks each week. Some complained about the amount of homework. Others expressed gratitude, either for their teacher's careful preparation and feedback, or for the time at home that the preventative pandemic lockdown had given them. "I am sure I learn more because we are under this situation." "I work hard doing assignments so that I don't regret [wasting] this time."

When the processes that the students described using to produce course assignments are considered alongside the instructors' interpretations of the assignments that were submitted to them, it becomes clear that there is an urgent need for both students and instructors to understand one another's perspectives. A large majority of students reported their motivation to both attain good course grades and to improve their L2 and academic writing skills, and highlighted their use of MT and other technological tools as being the most efficient way to achieve these goals simultaneously. Instructors, however, regarded the grammatically and lexically perfect text that their students produced as being so different from that achievable by students unsupported by technology that they were unable to see it as the earnest effort that it was.

Conclusion

The importance of carefully established and maintained teacher–student relationships cannot be overstated in any classroom, virtual or face-to-face. Trust, built on shared goals and experiences, benefits both groups. This article builds on previous research, notably by Hagenauer et al. (2015), that describes the impact of good quality relationships between teachers and their students on teacher well-being, and adds to the presently limited body of work focussing on teachers rather than students (see Corbin et al., 2019; Spilt et al., 2011.) For the ten instructors of L2 academic writing at the Japanese national university described here, building trust with their students in the ERTL context proved difficult, however, and led to them doubting their teaching skills and their students' academic integrity. This occurred for two reasons. Firstly, because they had not considered how important finding ways to get to know their students would become within the new on-demand medium of instruction, they instead focussed on the technical details of setting up their lessons online. Secondly, there was a need for greater awareness of the potential benefits of MT and online grammar checkers to be used in ways that are beneficial to learning rather than simply as labor-saving devices or as ways to attain undeserved academic grades. Moving forward it is important that instructors reflect on the need to not only build relationships with their students, but also facilitate learning by trusting that learners will do their best with the tools available to them. By respecting students' drive to acquire academic skills, instructors can not only foster positive teacher–student relationships, but in doing so, improve learning outcomes and increase their own well-being.

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Author’s bio

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5

Comparing ways of distributing peer evaluations, after student presentations in class or online

Tim Knight, Shirayuri University

Abstract

This paper discusses and compares three ways students can give and receive peer feedback following oral presentations in university language courses. All have been used in the author's classes, both in the physical classroom and online in classes held on Zoom. Students used their mobile devices or laptops to give their evaluations. Having students give each other feedback proved a useful way of keeping non-presenters active, as well as making sure presenters received useful feedback from as many viewers as possible.

The three methods discussed are: 1. PeerEval; 2. Moxtra; and 3. Google Forms/Sheets. Each was successful, and received positive assessments from the students afterwards, but each was especially good in different ways. Broadly, the first is the most immediate and perhaps 'fun'; the second is aimed at hosting online presentations and giving and receiving feedback on those presentations within the software itself; while the third was best for in-depth feedback, and was the most popular overall among students, although it required more setting up and organization afterwards from the teacher.

この論文では、大学の語学コースで学生が口頭発表後にピアフィードバックを与えたり受け取ったりする3つの方法について議論し、比較しています。これらの方法は、著者のクラスで、物理的な授業とZoomで行われるオンライン授業の両方で使用されました。学生は携帯端末やノートパソコンを使って評価を行いました。学生同士がお互いに評価し合うことで、発表者以外の人を積極的に参加させることができ、また、発表者ができるだけ多くの視聴者から有益なフィードバックを受けることができる有効な方法であることがわかりました。

今回取り上げた3つの方法は 1. PeerEval、2. Moxtra、3. Google Forms/Sheetsです。どの方法も有効で、学生からも好評を得ましたが、それぞれ異なる点で特に優れていました。大まかに言うと、1つ目は最も即効性があり、おそらく「楽しい」もので、2つ目はソフトウェア自体の中でオンラインプレゼンテーションを行い、そのプレゼンテーションに対するフィードバックを与えたり、受け取ったりすることを目的としています。一方、3つ目の方法は、綿密なフィードバックを行うのに一番適しており、教員が後から設定して整理する必要があるものの、学生の間では全体的に最も人気がありました。

Keywords: student presentations, peer feedback, blended classroom, MALL

Introduction

This paper introduces and compares three applications used by students to give peer feedback on their classmates' oral presentations in the author's university classes. Student presentations are a common feature of university classes, whether they are held in traditional classrooms or recently (because of the COVID-19 pandemic) online, in applications such as Zoom or Google Meet. One undoubted good reason is that they meet Japan's Ministry of Education demands for 'active learning' (Jones and Palmer, 2017) because, as Prince (2004) pointed out, the "core elements of active learning are student activity and engagement in the learning process" (p. 1). Researching a topic for a presentation, gathering and organizing the materials, making slides, preparing a script or at least an outline, all require students to be active. However, as teachers facilitating or organizing these presentations know, or soon find out, many students find it hard to focus on paying attention to presentations which are not their own. It can be a challenge to encourage those students waiting to do their presentation, as well as those who have finished their presentation, to pay attention to their classmates' work. Encouraging students to ask a question or make a comment after each presentation sometimes works, but in my experience, it rarely works satisfactorily, as most students rely on one or two of their forthcoming classmates to speak up. It usually works more successfully when one or two students are assigned the questioner role, and the questioners change after each presentation. This assignment is also limited, however, because it is guaranteed only to actively engage the students tasked with asking a question.

The best thing, then, is to encourage active participation from each student in every presentation, by asking them to give feedback to each other. There are two clear benefits to this. First, having peers evaluate each other "gives the benefit of learners learning from their peers, while being actively involved in their classmates' work" (Otoshi & Heffernan, 2008, p. 68); and second, as Topping (2018) points out, peer feedback "is available in greater volume and with greater immediacy than teacher feedback" (p. 2). Topping's point is pertinent. Having students give each other feedback is not only useful for keeping all students engaged: their feedback is also extremely valuable. Teachers are busy and it often takes them a while to give feedback. It is also surely more useful and instructive to get feedback from everyone who has seen one's presentation than from only the teacher. Indeed, Topping (2017) argues that the "reliability and validity of peer assessments tends to be at least as high, and often higher, than teacher assessments" (p. 13). The feedback, however, is more likely to be useful if students have been given some guidance on how to give feedback, for example – be specific about mentioning what the presenter did well, and something the presenter could improve.

Peer feedback can be given in various forms with a particular focus. As Topping (2018, pp. 3–4) describes, it can be quantitative or qualitative, or both; and it can be summative or formative. In fact, in the classes that I currently teach, qualitative comments at the end of one presentation project often function as formative feedback in the course overall, so peer feedback can be summative *and* formative.

All these different uses of feedback were employed through the three methods used for giving and receiving peer feedback that are under discussion in this paper. The three

methods that will be discussed and compared are: 1. PeerEval, a browser-based software and iOS app designed for students to exchange feedback on presentations; 2. Moxtra, a website and mobile app designed for business and equipped to host online presentations; and, 3. Google Forms/Sheets, the only method of the three already familiar to many students and teachers in the university department in which I work. Each method has been a success, and received positive reactions from students, but each has its own special strengths.

Tools and procedures

Students gave each other feedback, and also accessed the comments, on their mobile phones, or their laptops or tablets. Student evaluations of PeerEval, Moxtra, and Google Forms/Sheets will be discussed later, but this comment in a survey, conducted before the COVID pandemic, shows how some were used to giving feedback only on paper, and sums up well the positive feeling expressed overall: "It was new for me to give or receive feedback on internet because I always do that on paper. I think these three methods are really useful when I organize the contents of feedback, because they display all the comments at once."

Making use of technology to give feedback has several benefits over face-to-face assessment, notes Topping (2018). Technology, for example,

...allows anonymous marking and feedback, which can facilitate a willingness in students to critique the work of peers. It makes it easier for teachers to monitor students' online participation and progress. Online assessment systems can also provide teachers and researchers with valuable information about student online assessment behaviour and performance because they can automatically record data about student assignments, participation and communication. (p.39)

In addition to those points above, having students use their own devices also saves time, as they can start giving feedback while a presentation is still going on. It is also convenient as they have their own phones or other devices in the class anyway, they are familiar with them, and they can access them after class.

Students can give each other feedback after various types of presentations: presentations given individually, or in pairs, or small groups, to the whole class in the physical classroom; in round-robin style presentations (Knight, 2018b) in which groups of three to five students take turns to present from their own devices; in carousel-style presentations (Robb, 2018) in which students present to a small group and then move to give another presentation to another small group; after poster presentations, in which small groups are an audience for one student presenting with the aid of a poster on the wall, before moving onto the next poster-presenter; and also after online presentations, both those given live on Zoom, and also those recorded and uploaded to be seen online.

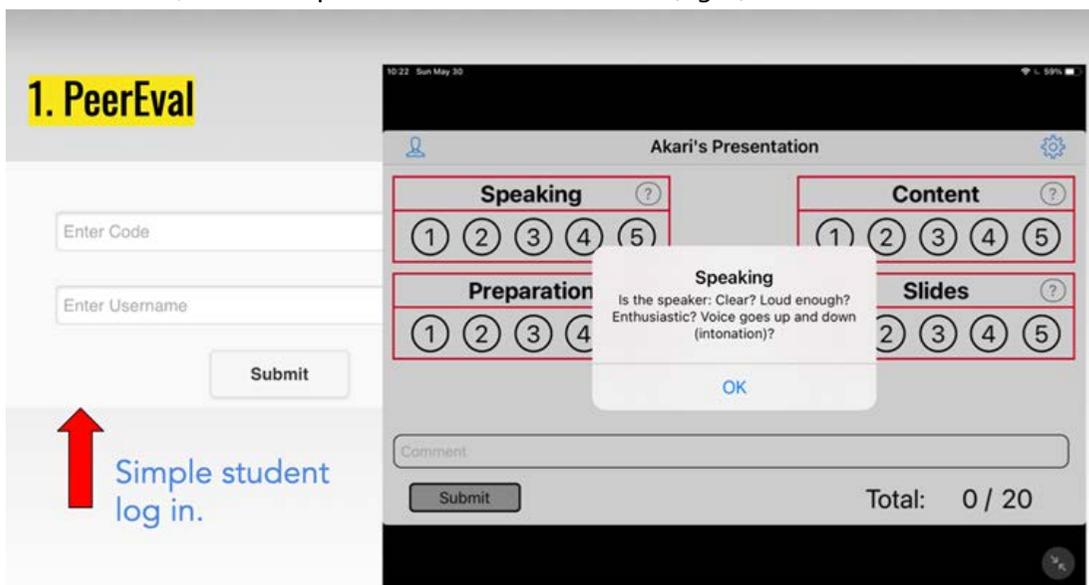
PeerEval

The first method for giving peer feedback to be discussed here is PeerEval. This was developed by Thomas N. Robb (2017), perhaps better known as the developer of MReader, the

software that houses thousands of quizzes for graded readers used in Extensive Reading. There is a convenient PeerEval mobile app for iOS devices, but Android phone users need to use the browser-based version designed for computers, available at www.peereval.mobi. On opening the site, the first page announces it is “Technology for Better and More Frequent Presentations” and claims it is for “Making peer evaluations accurate and fun!” Most prominent are clear links to log in, either as a student or as a teacher. As a teacher preparing to use PeerEval, the first thing to do is make an account, and then make a class, which is achieved by uploading a .csv file with student names. The next step is to create a session, which will be used for a particular presentation. The teacher needs to select a rubric for evaluation. There is a standard PeerEval rubric available, or the teacher can adapt it and make their own, thus enabling the teacher to have students focus on the aspects of a presentation deemed important for that class. One of the benefits of PeerEval is the ease for students to log in. As Figure 1 shows, they only need to enter their username, or handle, (I create my class so that students simply use their given name), as well as the session code, which is automatically created by the app and clearly visible on the teacher’s page. Students do not need to create an account. To give feedback, students find the name of the presenter from the class list, and award them scores out of 4 or 5 (depending on how the teacher has set it up) for the criteria in the rubric, and then have the option of adding free comments in the comment box below. Students have immediate access to the feedback inside the app by clicking “See My Results.”

Figure 1

PeerEval’s login is easy for students (left); and easy to give numerical feedback, based on a rubric, with the option to add free comments (right).



Teachers can see what feedback has been given, although they cannot see who has written which comment, as Figure 2 shows.

Figure 2

The teacher's view, showing comments and average scores given to individual students by their peers.

Name	Content	Preparation	Slides	Speaking	Average
Haruka	4.3	4.2	4.8	4.0	4.3
Average	4.3	4.3	4.4	4.2	4.3
Your voice is very clearly, it is good point! I'm glad to hear the recommended song. It was very good she gave a happy presentation. Your slide is easy to understand! I understand you like and respect her. I didn't know Taylor's real name, age and she appears Cat!					

Name	Content	Preparation	Slides	Speaking	Average
Maho	4.6	5.0	5.0	4.6	4.8
Average	4.3	4.3	4.4	4.2	4.3
I also like Takarazuka so I'm glad to hear your presentation, and your presentation design is amazing!! Your English is easy to listening and slide was nice, so very good presentation! I have never seen Takarazuka at the theater, so I want to see it at the theater. I suggest you, you have intonation in your voice. Your presentation was easy to understand. It was good presentation. Your presentation is many gesture, it is good point! It was easy to understand because you also used gestures.					

Teachers can also view a table, such as the one shown in Figure 3, of all the scores, which lets them identify who has given what score to whom. This is useful as it is possible to identify a student who is being overly generous, or the opposite, or not thoughtful in their scores.

Figure 3

The "student evaluations" table in the teacher's account, showing how the students in one class have rated each other out of 20.

UID	HANDLE	8988	8990	8991	8992	8993	8994	8995	8996	8997	8998	8999	9000	9002	9003	9004	9006	9007	AVERAGE
8988			19	15	17	17		17		17						16	18		17
8990					19		17		16		17					16	18		17.17
8991		18				15	17				15	15		17		16	16		16.13
8992		15	18			16	17		16				18	17		19	16	18	17
8993		20		16	18		19		19					18		19	20	19	18.67
8994			18	19	18	17			18		18	19							18
8995		19							18	18	18		19	18	18				18.29
8996			17		18	17	17	18					15		17			17	17
8997		19	20		18			19			15				16		19		18
8998			20	17			20	19		18		18		19	19				18.75
8999					18		20				20		18	20	19			17	18.86
9000					19			20	19			17			19	18	20	17	18.63
9002				15	18	18			20		19	17	16						17.57
9003			19					20	19		18	20	19					17	18.86
9004		20	18	17	17	18						17	18				19		18
9006		20	17	15	17	16								16					17.14
9007					17	17	17		17			17	18		17				17.14
	AVERAGE	18.71	18.44	16.5	17.82	16.78	18	19	17.75	18	17.25	17.38	17.63	17.86	17.86	17.86	18.29	17.43	

PeerEval is free to use for a one-time use, but paying for an annual subscription (\$25 for

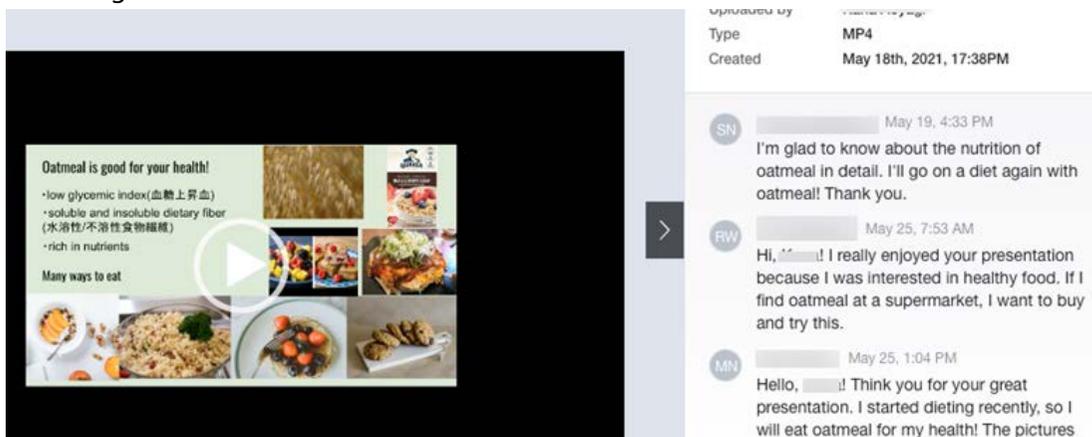
an individual teacher) means the teacher's classes and sessions remain available any time and it is not necessary to start from scratch each time.

Moxtra (Moxo)

The second method for giving peer feedback introduced in this presentation was Moxtra, which has recently been rebranded for individual, non-paying users as Moxo. The developer is the business software company, Moxtra, Inc. A look at the full site at www.moxtra.com shows that it is a collaboration platform for businesses. The free, lighter version at www.moxo.com provides a collaborative workspace in digital binders that can be used by teachers and students who want to house various projects. It has a full-fledged mobile app for iOS and Android devices, so is very useful in MALL situations. I have only used it for student presentations. Knight (2018a, 2018b) explained how to use it in depth. First, the teacher needs to make an account with an email address and password. Then the teacher creates what Moxtra/Moxo calls a "conversation," and invites students to join by entering their email addresses in an invitation box. Students accept the invitation so they become members of the conversation. Then, they create their own digital folder, and upload their slides into it. They can upload a PDF, a PowerPoint or Keynote slideshow, or single photos. Next, they record their voice over the visuals. It is possible to record the presentation with the speaker's face showing, or with audio only. Anyone with access to the conversation (that is, everyone in the class) can watch the resulting MP4 file, and make comments on it. It is possible to write comments or record voiced comments. However, although the quality of the audio on the presentations is very good, the recorded comments do not sound so good, and, in any case, I have found that students only record comments if they are required to. They do freely write comments in the box provided, and they can write comments as short or as long as they wish. Figure 4, below, shows what three peer feedback comments on a classmate's recorded presentation look like on a computer.

Figure 4

One student's presentation video on the left, with comments by three classmates on the right.



It should be noted that having students give peer feedback inside the Moxtra/Moxo

application is only good for giving qualitative feedback. There is no chance to add a rubric, or to choose numerical evaluations. In fact, as will be discussed later, it usually results in only positive feedback, so is less useful if teachers are hoping students provide their classmates with some pointers for improvement.

I have tended to use Moxtra/Moxo as an extension of a presentation project rather than as its only outlet. Students present to their classmates live first, either in the classroom, or on Zoom in a breakout room. Then, for homework, they upload and record their presentation in the app. This means there is a digital record, which is useful for the teacher when it comes to grading at the end of the course. It is also immediately useful as a way of letting all students see all their classmates' work. When the presentations are first done in groups in class, or in breakout rooms on Zoom, students usually get to see no more than half their classmate's presentations. Therefore, as a follow-up, I require students to make comments on the presentations they did not see in the live session.

Google Forms/Sheets

The third and final method for giving peer feedback that was outlined in the presentation was by using two apps in the Google Workspace. Google Forms, especially, has become increasingly known to teachers and students during the pandemic, as they have been used to collect submissions to all kinds of tasks and quizzes. For the purpose of letting students give peer feedback after presentations, the teacher first needs to create a Google Form. Teachers can set any questions they like, asking for a mixture of qualitative and quantitative feedback, or only one type or the other. It is not necessary to include a question asking the respondent to give their name, but it is useful, if only for the teacher's records. In case students make a mistake at this stage, for instance in confusing given names and family names, I create a dropdown question with all the class members' names entered. That question can then be easily duplicated, thereby making, with a little tweaking, two questions to which students can simply select their answer – one for the name of the presenter they are evaluating, and one to give their own name. In the forms I design, those questions bookend the form. Three questions are made using a Likert scale, asking for a numerical evaluation of the presenter's content, delivery, and visuals. Two questions ask for 'short answer' free comments: one to note something that was *good* about the presentation, and one to note something that the presenter could *improve*.

Students' comments on their classmates' presentations were distributed via the Google Sheet that was automatically created by the submissions in the form. After editing, the sheet was downloaded as a PDF and uploaded to the class Learning Management System, from where the students could access it. This method means each student can see all the comments, including all those given to their classmates, not only to them. Although it could be argued this is a distraction, the benefit is that students will be able to learn from the variety of comments on display about all the different presentations. Before being distributed to the students, the Google Sheet needs editing. Part of an example can be seen in Figure 5.

Figure 5

A Google Sheet, comprising questions and answers from a peer feedback form, at the editing stage.

B	C	D	E	F	G	H
Whose presentation did you see?	What score do you give for delivery (speaking, eye contact etc.)?	Score for content? (3 parts must be there for a high score: survey information; factual information from research; personal comments/opinion)	Score for visuals (slides)?	What was something GOOD about the presentation?	What is something TO IMPROVE for the presenter?	Who are you? (So I know who has commented.)
	4	5	3	It was easy to understand by talking while comparing with other surveys. It was good that the reference was written.	Instead of just reading the manuscript, make eye contact. It is easier to understand if the main points are narrowed down a little more.	
	4	5	3	Speaking speed was nice	I felt there were too many characters on some slides	
	3	3	3	Speaking speed was good.	I felt there were too many letters in slides. I think there was more information in slides (visual information) than information in speaking.	
	4	5	3	Speaking speed was nice	I felt there were too many characters on some slides	

The editing process prior to sharing the comments was as follows: ‘Hide’ columns deemed unnecessary for the recipient students, such as the timestamp and that of the student evaluator (“Who are you?”); shorten the questions, especially those that included a rubric; increase the size of the font from the default 10 to 14 so the comments could be read easily on a phone; ‘wrap’ the comments so they are easily read within the table; make sure the document is in portrait mode before downloading. The “Who are you?” question has not yet been hidden. It can be seen that the student evaluators have given scores thoughtfully, and made constructive comments in answer to the requests that they give specific points for improvement as well as noting what the presenter did well.

This section has outlined the three methods used by students for giving peer feedback on classmates’ presentations in my university classes.

Results

In this section, let us consider the advantages and disadvantages of each of the three methods. This can be done not only from my perspective, but also a total of 108 of the students who used the three ways to give peer feedback. Over two years in various classes, the students responded to a survey at the end of their course. The quotations from the survey reported in this section keep occasional grammatical and spelling errors the students made to preserve the authenticity of the comments. The students were asked in English to rate on a Likert scale, from one to five, each of the three methods with regards to four questions:

1. Which of the three methods was *most enjoyable* for giving feedback?
2. Which was best for *giving serious* comments and advice?
3. Which was most *satisfying* for receiving feedback?
4. Which was most *useful for understanding how to improve* your presentations?

As I explained to the students, the phrase “serious comments” in question two meant more in-depth comments of constructive criticism rather than the casual “Good job!” or “Great presentation!” style of comments, which I had observed some students were prone to, unless guided to make more specific points. The questions were asked about each method in turn, so the respondents could give a score to each of the three. They were not asked directly to rank each different method against each other. In fact, the questions were left “unrequired” on the form because although every student had used a Google Form to give feedback, one class had not used Moxtra, and one class had not used PeerEval. That is why the total scores on the column charts about Google are more than those for the other two methods. Some students, though, must have answered questions about the one they did not use anyway. I did not make a separate survey form for each class because I was pressed for time towards the end of the semester and, at that time, was more curious to get a sense of how the students felt rather than in need of perfectly matched numbers. Nevertheless, I believe they are a fair representation of the feelings of students about the comparative merits of each method when looking at the ratings given to each method one-by-one.

I had some ideas before collecting comments about what students might say. For example, that PeerEval would be considered the most fun, or enjoyable, to use in that it was easy to give a score and a brief optional comment, whereas Google Forms would be most useful for giving serious advice and comments, especially for formative assessment, because of the way questions could be targeted towards seeking specific answers for ‘good points’ and ‘points to improve.’ Moxtra, or Moxo, it seemed, was slightly different in that it was for online, pre-recorded presentations, and fine for summative assessment, but less so for formative assessment. To some extent these ideas were confirmed by what I observed, and received in comments from students. However, Google Forms/Sheets proved even more popular than expected. One student, in the optional “long answer” free comment section of the survey, summed up well what many seemed to feel about the comparative merits of the three different ways for giving and receiving peer feedback:

G form - very useful because we can get serious comment.

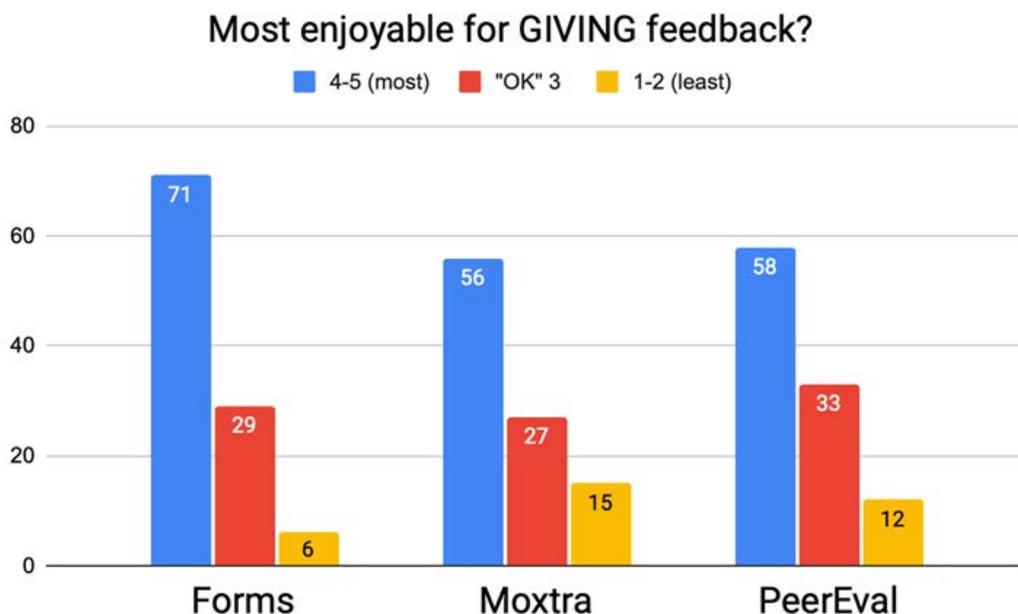
Moxtra - recording is very interesting but no serious comment, so a little bit boring.

PeerEval - very easy and useful... but we feel no pressure.

Further, noteworthy comments and points, and reasons for them, were also noted, and will be discussed here. First, let us consider the ratings given by students to the Likert scale questions. As explained earlier, a score from one to five was given for each method separately. For the sake of simplification, in all the following graphs, the positive “4” and “5” choices have been grouped together in the blue columns; the non-committal, semi-positive “3” option choices are shown in red, and the negative “1”s and “2”s have been grouped together in the yellow columns. The graph in Figure 5 shows a summary of responses to the question, “Which was the most enjoyable for giving feedback?” It can be seen that there is little difference between how Moxtra and PeerEval were considered. Both are viewed positively overall, but there are double digit negative responses. However, only six students gave an unfavourable score to Google Forms for giving feedback, and the total number of choices from 1 to 3 were easily outweighed by those who viewed using Forms positively. Twice as many students chose 4 or 5 for that question.

Figure 6

Graph showing students’ responses to the question for each method, “Which was most enjoyable for giving feedback?”



Students’ preference for Google Forms for this question did not quite tally with my hypothesis, but it was clear from many free comments that students enjoyed the familiarity with Forms. They did not need to be guided in how to answer the questions, as they had used Forms for other tasks, quizzes, and surveys in the presentation course and other

courses. Indeed, some had used Forms to make surveys in classes themselves. One student remarked in the survey, "Google Forms are very common among other classes, so it is easier to use than Moxtra and PeerEval." Another wrote, "For me Google forms was the easiest method because I use it in other class." It is interesting that both those students, and others, used a form of the word "easy," which was not used in a question. However, this advantage cannot be underestimated. As the behavioural economist Richard Thaler has said, "If you want people to do something, make it easy" (as cited in Harford, 2019). Another student clearly praised Forms because it is good, writing, "I think Google Forms is great for taking surveys."

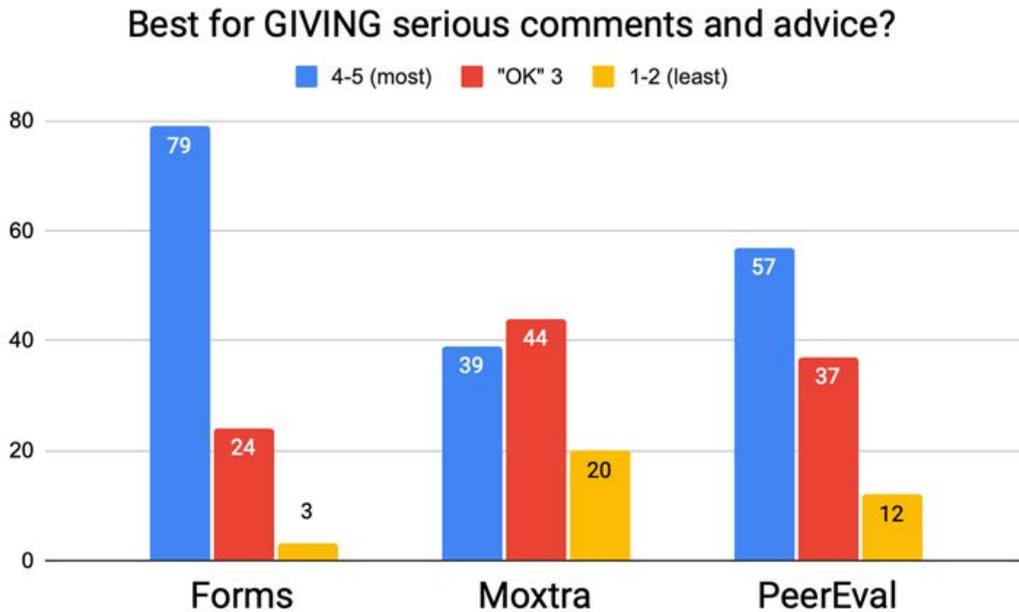
Several students made the point that they could write as much as they wanted in a Google Form, whereas there is a character, or word, limit in PeerEval. The free comment box was only long enough for one or two short sentences. The limit has now been extended, but there is still less space than with a Google Form 'long answer.' One of the students who noted this difference wrote in the survey: "When I was writing on Google Form, it was fun because there were more questions and I could write a lot. On the other hand, PeerEval was useful to write quickly, but I could not make so much comments for speakers." Another praised PeerEval for its convenience, but added, "I was sorry that there was a limit to the number of characters (words) so sometimes I could not tell my opinion."

On the other hand, some preferred PeerEval. In fact, one student was not at all hampered by the word limit: "...the writing amount is just right," she noted. Another wrote: "Google form is hard to write comments because I have to scroll rather than PeerEval." Another student singled out PeerEval out of the three methods: "Among them, PeerEval was very easy to use for evaluating other people's presentations." Some students appreciated the clear rubric provided in PeerEval. One noted that "the viewpoints of evaluation will be suggested so it was helpful to evaluate," while another wrote, "PeerEval made me carefully listen to others' presentations, paying attention to eye contact, contents and so on, because I have to evaluate them." This student was not asked to use Google Forms in her course, so was making a comparison only with Moxtra. That app received most praise for its recording function, but the facility for giving comments was appreciated by some. One thought it was easy to give comments "because Moxtra is chat style and we can comment on the video files." Another noted that especially when classes were being held on Zoom, "It was difficult to listen every presentation in class, so Moxtra was very helpful to listen all of it and give a comment."

As I expected, Google Forms was clearly the first choice for the second question, as can be seen in the graph in Figure 7.

Figure 7

Graph showing students' responses to the question, "Which was best for giving serious comments and advice?"

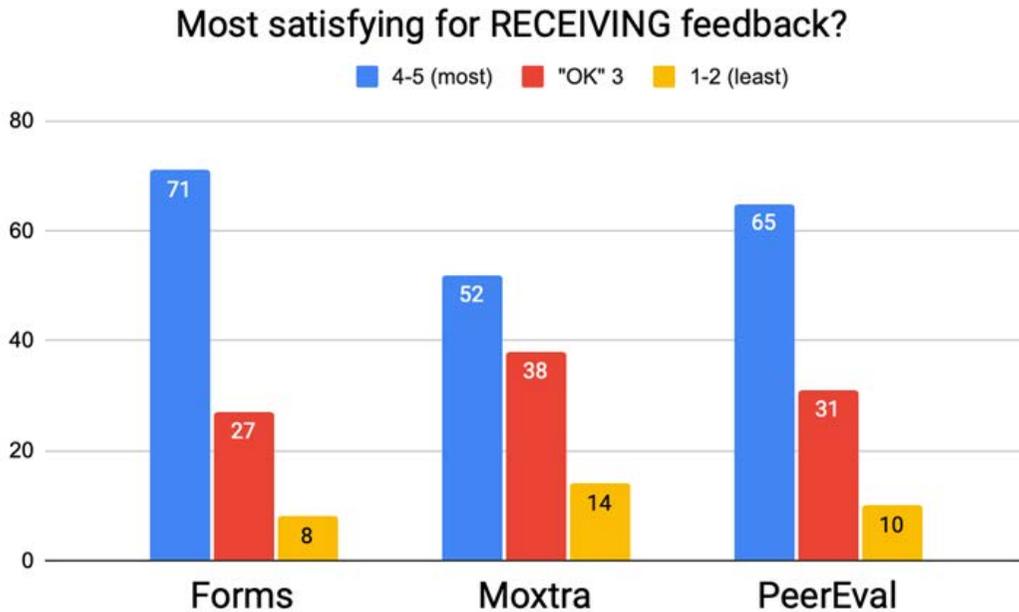


Apart from the familiarity and convenience with accessing the form simply from a link, the main point made by the students was that they could write freely with no limit. No doubt, the design of the form was also a help, with two clear questions, one asking for points the presenter did well in their presentation, and another asking for points the presenter could improve. The main reason students did not rate Moxtra highly for this question was that, unlike the other two methods, it was not anonymous. The same student who liked being able to view all her classmates' presentations in Moxtra also commented that, "it was sometimes difficult to give a serious advice because everyone can see it and know who commented it." Another wrote that "it was difficult to write serious comments in Moxtra because my name can be seen." The effect of anonymity seems to depend on the student. Some students were able, or felt inclined, to make critical comments despite their name being shown in Moxtra, or later under YouTube videos. It is true, however, that it is much harder to find comments that are critical in those feedback forums than in the Google Forms, although this must be at least partly because the questions asked (e.g., What is something the presenter could improve?) could specifically seek critical comments. The student comments on a Moxtra presentation that are displayed in Figure 3 are typical in that they are "friendly," to use a student's word from the survey. They are positive and do not say anything critical about the presentation. The comment function in Moxtra seems to encourage students to comment on the *content* of the presentation rather than the way the presentation was done. It shifts the focus of the feedback.

To the third question, "Which was most satisfying for receiving feedback?", PeerEval was almost as popular as Google Forms, as can be seen in Figure 8.

Figure 8

Graph showing student responses to the question, "Which was most satisfying for receiving feedback?"

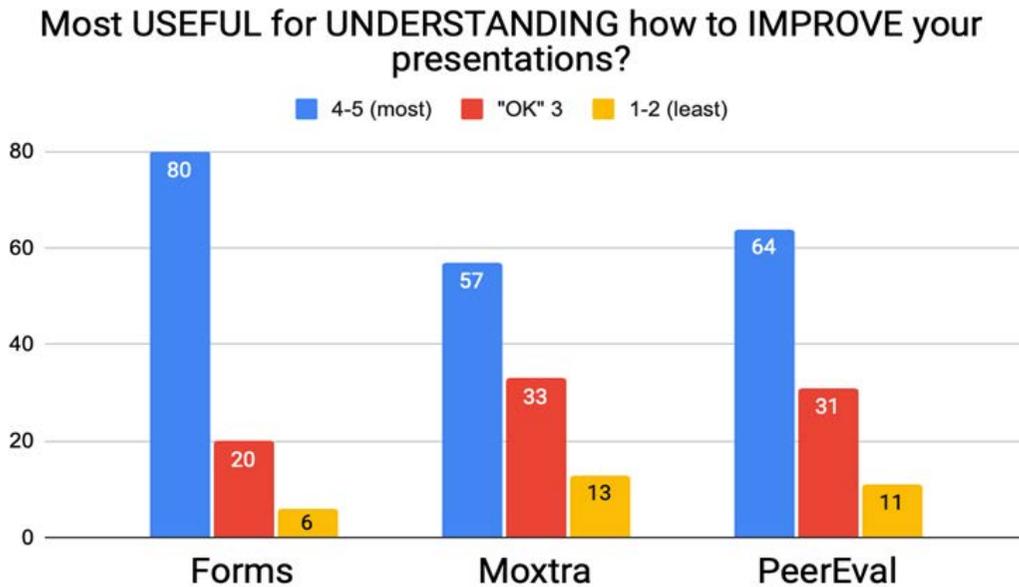


The main reason PeerEval was so positively viewed here was that the peer feedback could be seen without delay. The feedback given in Forms was received later, on a PDF made from Sheets, which meant the students had to wait until the teacher sent it out, up to a week later. Comments made on videos in Moxtra could also be seen straight away, but, as we have seen, they tended not to be about the way the presentation was made and although they were generally positive, students often found them rather superficial. Comparing the former two methods, one student wrote, "I think PeerEval is better because unlike the Google form, I can see my result immediately without being presented by the teacher." Another wrote, "PeerEval was easy for me to make and receive comments. Google forms take time to make and receive comments." Again, though, Google Forms was the most satisfying, largely for the thoroughness of the feedback given. Some did not mind the delay in receiving it, as exemplified by this student's comment: "...personally, it is better to get feedback in pdf later."

As shown in Figure 9, the responses to the last question were similar, although Google Forms was even more clearly preferred.

Figure 9

Graph showing student responses to the question, "Which was the most useful for understanding how to improve your presentations?"



To the question, "Which was the most useful for understanding how to improve your presentations?", Forms received 80 ratings of 4 or 5, and only a total of 26 from 1 to 3. Again, it seems that being able to receive thorough, anonymous, specific feedback in a clear-to-read format was appreciated. One student who had used Google Forms found "PeerEval is easier way for give comments to others, but when I receive comments, G Form is better way to check comments."

PeerEval was regarded a little more positively than Moxtra for reasons already discussed. One student wrote, "Moxtra was happy to receive a lot of complimenting comments, but I thought people tended to refrain from harsh comments as other's comments were made public." Another noted, "I could not understand what was lacking in my presentation, and how I should improve it in Moxtra, but I could understand such things clearly in PeerEval by checking scores." Neither of these students had been asked to give feedback in Google Forms, which I kept for dedicated presentation classes rather than an oral communication class that incorporated an occasional presentation component. There was one unexpected comment from a student in the survey in praise of Moxtra for its inspirational use. She liked Google Forms for being easy to use and PeerEval for being "simple to give feedback," while she found Moxtra useful "because I can look other students' presentation again to learn others' good points and attractive idea which I would not imagine and think of."

Conclusion

This paper has outlined three methods for which students can be asked to give peer feedback on their classmates' presentations, whether in the classroom or online. All were seen in a positive light overall, and most students are interested in trying different apps if they find them useful. As one student wrote, "Each tools are easy to use. Especially I've never used tools like Mokustra or peereval before, so it was interesting. It was fun to be able to use various functions." In summary, it appears that Google Forms is the best method for providing a way for students to give in-depth, qualitative feedback on the way the presentations are given, although it is also easy to give some quantitative feedback as well. It was viewed most positively by students overall, partly because students found it easy to use, owing to their familiarity with the app. PeerEval was appreciated most for its immediacy. The scores and comments given to the presenters are available as soon as they are given. It should be noted that the built-in rubrics and presenter's scores in comparison with the average score given to the class is a unique feature. The app was found to be particularly worthwhile in general communication classes with a presentation task. Moxtra, or Moxo, as it now is, was liked as an app to house a digital presentation, but also more negatively viewed for giving and receiving feedback. This was largely because any feedback given is not anonymous, so comments were rarely critical. This seems to give an encouraging indication that students really do appear to want to know how to improve their presentations, and that they value their classmates' advice towards achieving that.

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Author's bio

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6

A comparison of linear and interactive fiction on vocabulary acquisition, reading comprehension and engagement

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Abstract

There are few studies that explore the cognitive and affective benefits of interactive fiction (IF) in language learning and teaching contexts. Inspired by Neville, et al. (2009), we compared the effectiveness of IF in comparison to non-interactive, linear fiction in terms of vocabulary acquisition, reading comprehension and motivation in a university EFL context. Participants ($n = 88$) were divided into two groups. The control group read a linear story; the experimental group played through an interactive version of the same story. A pre- and post-experiment vocabulary test was employed to measure the acquisition of 16 target vocabulary words. A test based on the actions of characters within the story was also employed to measure reading comprehension. Finally, a post-test questionnaire measured student perceptions of learning with linear and IF.

This paper introduces the results of the study which are as follows. Findings revealed no significant difference in scores between the control (linear) and experimental (IF) groups for vocabulary acquisition or reading comprehension. However, an additional analysis of the data was conducted based on learners' gaming proficiency which revealed that, in comparison to high proficiency gamers, low proficiency gamers found it difficult to control the interactive version of the story. This suggests that students' level of game literacy may influence perceptions of the system.

インタラクティブ・フィクション (IF) が言語学習において認知的・感情的にどのような効果をもたらすのかを探求した研究はほとんどない。Neville (2009) にヒントを得て、大学 EFL のコンテキストにおいて、語彙習得・読解力・学習意欲の観点から、IF の効果を、非対話型の物語と比較した。参加者 ($n = 88$) を 2 つのグループに分けた。対照群は選択肢のない直線的な物語を読み、実験群は同じ物語で選択肢のあるものを読んだ。実験前と実験後に行われた語彙テストでは、物語から選ばれた 16 の語彙の習得状況を測定した。また、読解力を測定するために、物語中の登場人物の行動に基づくテストを実施した。最後に、実験後のアンケートで、直線的な物語と IF を使った学習に対する生徒の認識を測定した。

本稿では、本研究の結果を以下のように紹介する。対照群(直線的)と実験群(IF)の間で、語彙習得や読解力のスコアに有意な差がないことがわかった。しかし、学習者のゲーム習熟度に基づいてデータの追加分析を行ったところ、ゲーム習熟度の高い学習者に比べて、ゲーム習熟度の低い学習者はインタラクティブ版のストーリーをコントロールすることが困難であることが明らかになった。このことから、学習者のゲームリテラシーのレベルが、システムに対する認識に影響を与えている可能性が示唆された。

Keywords: interactive fiction, reading, game-based learning

Introduction

Whilst the use of games as teaching tools in second and foreign language education is nothing new (see Dorry, 1966; Lee, 1979), digital games are receiving increased attention as tools for language learning and teaching as their popularity as a pastime and cultural artefact grows (Mawer & Stanley, 2011). Indeed, according to a recent report, the game industry is now almost ten times the value of the music industry, and twice that of the movie industry (Richter, 2020), meaning that there is a high probability that our students are at least casual “gamers” even if they do not identify with this term itself. Implementing games in the classroom may thus be considered an imperative, allowing students to make use of the social and cultural capital they have accrued through gaming as part of their education (Walsh & Apperley, 2008; Blume, 2019)

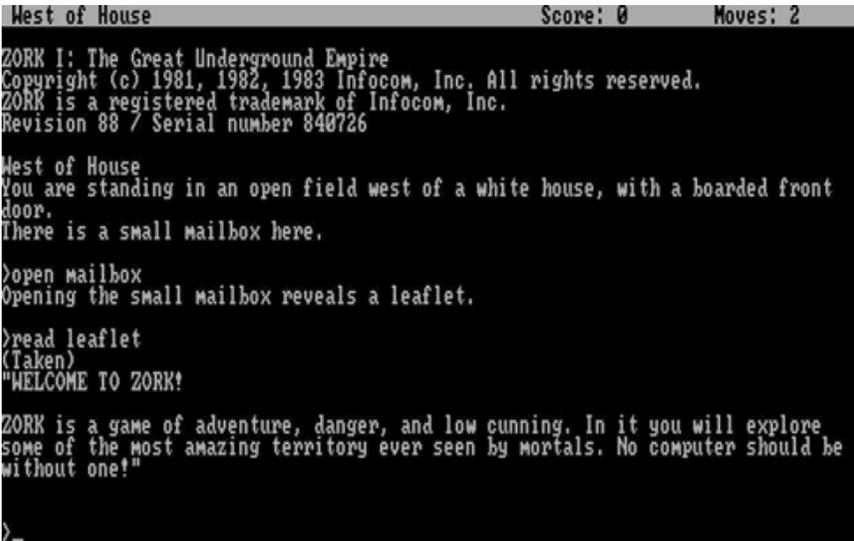
A brief history of interactive fiction

The present study focuses on a specific form of game known as “interactive fiction” which, as the name suggests, is an interactive form of fiction where the reader progresses the story in one of several directions based on their own choices. Choice is a key term here and may provoke memories of the classic interactive fiction series known as Choose Your Own Adventure (Montgomery, 1982). In these books, after reading a page (or sometimes more) of text, the reader would be given a choice to turn to other pages based on the decision they want to make. For example, and as the title of this paper states: “Turn to page 5 to enter the cave,” or “Turn to page 6 to stay on the current path.”

The original form of interactive fiction was thus paper based, where the reader had to turn to a specific page, of their choosing, to progress the story. However, this form of entertainment was also one of the earliest forms of electronic/digital games to be implemented in the late 1970s, such as in the *text-based adventure game Zork*” (see Figure 1). This game required the user to input simple text commands to progress the story such as GO, LOOK, OPEN, NORTH, and PICK UP (Lebling et al., 1979).

Figure 1

A screenshot of the text-based adventure game Zork.



With technological innovation however, these text-based adventure games developed into more graphically enriched experiences during the 1980s as pioneered by Lucasfilm Games. One of the most iconic games of this series is The Secret of Monkey Island (Lucasfilm Games, 1990). With the addition of graphics then, textual input was reduced, favoring “point-and-click” mechanics instead. Choice in terms of dialog did however remain (see Figure 2).

Figure 2

Screenshot of the adventure game The Secret of Monkey Island.

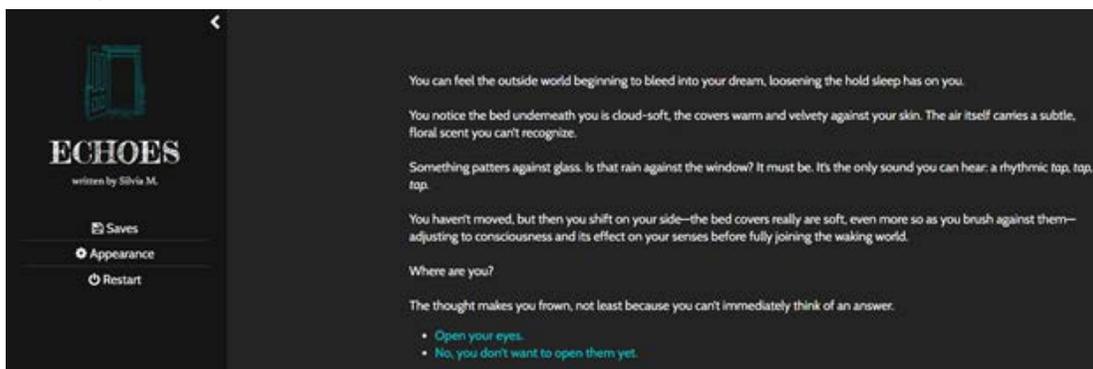


There also exists a form of *digital interactive fiction* which more closely mirrors that of its analog predecessor in that the user does not need to input commands to progress the

story, but merely choose what the protagonist does next by clicking one of several choices presented (see Figure 6). This type of digital interactive fiction is gaining in popularity with the appearance of simple-to-use interactive fiction creation tools such as Twine¹ and Renpy², meaning that the barrier to entry in terms of creating interactive fiction has been lowered significantly. Additionally, there now exists not only tools to create interactive fiction, but websites to share one's creations such as itch.io³ and fanfiction communities such as Archive of our Own⁴.

Figure 3

Screenshot of an independently made Twine game hosted on itch.io (EchoesDev, 2021).



The present study focuses explicitly on this final type of interactive fiction which features low complexity in terms of graphics, gameplay, and user interface; a large volume of text to read and requires minimal user interactivity. On a continuum from AAA games such as the popular massively multiplayer role-playing game (MMORPG) *World of Warcraft* and a linear, written novel appearing as text on a webpage, this type of interactive media falls closer to being a “story” than it is a “game.” The rationale for the use of this type of media are that 1) from a self-determination theoretic perspective, the element of player choice may increase student motivation to engage with the source material, 2) the active form of reading may improve reading comprehension and 3) there are relatively few studies which have explored the use of interactive fiction in the research literature.

Literature review

Interactive fiction in language learning contexts

Shelton (2007) considered the educational affordances of interactive fiction from a theoretical perspective. He proposes that the medium is especially suited for language learning as it may be created to align with learning goals or used alongside traditional texts to reinforce learning (p. 114). As described above, the medium resembles traditional writing, but gives the reader choice, creating a uniquely active reading experience. In this way, as the reader is an active participant in the unfolding of a story, the main narrative perspective is often written in the second person where the dialog talks directly to the reader

(e.g., “*You* open the door and find a table with three items on the top, but *you* cannot make them out from the entrance. Do *you* get closer?”). Interactive fiction may thus be beneficial in promoting motivation towards learning by immersing readers/students in the cultural and contextual situations that are aligned with the learning goals of the class (see Hubbard, 1991, 2002).

For empirical studies on IF, Neville et al. (2009) is the key source of inspiration for the present study. In their study, a standalone IF game was created to teach German vocabulary and culture as well as improve reading skills. It should be noted that the IF game featured here resembled a text-based adventure game, requiring input from the user in the form of keywords to progress the story. Due to students’ unfamiliarity with the experimental computer game, they required a tutorial on how to interact with and progress the story. Two groups of students were created where the control group read a story in German and the experimental group played through the interactive fiction game. After receiving input, both groups completed a homework assignment which consisted of: (1) a vocabulary test and (2) asked students to rewrite the story in their own words. Data was also collected in the form of student perceptions of learning with the experimental intervention.

The study was conducted with only 9 students, but results seemed to suggest that the control (reading) group considered reading and doing homework based on the reading a more effective method of developing German vocabulary skills than the experimental (IF) group. Additionally, they considered reading more relevant to their learning than the IF group, indicating that the reading activity more closely matched their preconceptions of how to study a foreign language. Finally, the control group also expressed more confidence in their mastery of German than the IF group. In terms of positive gains for the IF group, students in this group performed better on the vocabulary tests and perceived the story-rewriting homework to be less cognitively demanding than the students in the reading group. This suggests that there was less of a difference in the cognitive demand of the IF game and the homework, or, in other words, that it may be possible to prompt students to complete more difficult tasks in the L2 when using game-like systems (see also Shibata & York, 2021). Finally, the IF group also produced more of the vocabulary found in the game in their story reconstructions than the reading group. Limitations of this study were that 1) the small sample size, not allowing for any rigorous statistical analyses of vocabulary tests and student essays, and 2) the stories which the control and experimental groups read contained different content. The experimental group’s story was only based on the same scenario and vocabulary as the control group.

Outside of Neville et al. (2009), there are few studies which have explored the use of IF in language education. Similar to Shelton (2007), Pereira (2013) considers the affordances of the medium for language learning but does not present data or results of an empirical study other than several student perspectives on learning with IF where the general trend was that IF may be an engaging and useful tool for practicing reading the target language. In a follow up paper, Pereira (2013) again focused on the learning potential of IF focusing on writing, meaning focused instruction, and authenticity. This concerning trend of evaluating IF as a tool for language acquisition without implementing it in an empirical study continues in Bazinet (2015) who notes that “little research has been done on digital narratives in the L2 classroom” (p. 86). The present study thus aimed to verify the hypothetical

cognitive and affective benefits of IF in language teaching contexts. Irwin (2020) is a rare empirical example of interactive fiction use in an intact classroom where 48 students created IF using Google Slides. Results of the study suggested that students enjoyed this creative use of English, with improved motivation to write in English. Additionally, surveys suggested that the activity helped students to be able to express themselves in English, thus the project was considered a success with both affective and cognitive gains made.

Student familiarity with games

An important factor which relates to the present study is student familiarity with games and gaming culture. According to Rama et al., (2012) a participant with high gaming proficiency but low language ability performed better during a gaming task than a participant with the opposite characteristics due to familiarity with games, thus reducing cognitive load and providing motivation to play and in sum more opportunities for learning. The low-stakes environment of gaming is also thought to lower anxiety and increase willingness to communicate (Reinders & Wattana, 2014).

Research questions

Based on a review of the literature on interactive fiction in language learning contexts, the following research questions were formulated:

1. In comparison to a linear story, do the choices presented to readers in interactive fiction help improve vocabulary acquisition?
2. In comparison to a linear story, do the choices presented to readers in interactive fiction help improve reading comprehension?
3. What are students' perceptions of reading and learning with interactive fiction in comparison to a linear story?
4. Does students' familiarity with games and gaming culture affect learning and motivation?

Method

Participants

The study was carried out at a private university in Japan. 93 participants volunteered to take part in the study, however, not all participants completed every stage of the intervention meaning that the data from only 88 participants was used in the final data. All participants were native speakers of Japanese. 30 participants were in the second year of their studies, and 58 participants were in the first year of their studies. No payment was provided for participation.

Instruments

Story and vocabulary tests

First, researchers created a story where the setting was based at the university which all the participants attended. The content of the story thus related to various places within the university. This was done to create a sense of familiarity but at the same time also as

a way to introduce areas of the campus that the first-year students may not be familiar with. The story theme was designed around the mystery genre or, more precisely, a “who-dunnit” where the reader must figure out who stole students’ pencils by going to various locations around the campus and collecting clues. The story is available in its entirety in Appendix 1: The story created for this study. Unlike previous research, the story was designed to contain the same content on both systems (linear and interactive versions). Thus, they featured the same start and ending, vocabulary, characters, and photos of the university grounds. However, it should be noted that although the content was the same, due to the non-linear interactivity of the IF version, it is not ‘identical’ to the linear version in that the story develops in a different order depending on reader choices.

Vocabulary used in the story was chosen to coincide with the Eiken Level 2 test, a test which is designed to be appropriate for graduating high school students in Japan (Eiken, 2021). Among the words used, 16 were chosen for the pre- post- and delayed post-test. These were chosen based on their position in the New General Service List (NGSL) and academic word list. 16 words were chosen to be incorporated in the vocabulary test. 11 words between 1001 and 2000 on the NGSL (barber, thief, information, shout, a bottle of, normal, encourage, fold, solve, guess, quietly), and 5 on the academic word list (incident, similar, co-operation, initial, inspect).

Interactive fiction software

The software employed for creating interactive fiction in this project was Twine, an open source IF creation tool which runs in an internet browser or may be downloaded as a standalone application on Windows, Mac OS, or Linux operating systems. The simple GUI allows the user to input the prose (narrative) for a section of the story and create choices for the reader within the text (Figure 4). Text wrapped in double parentheses ([[]]) represents a choice to the reader, and will automatically create a new dialog box, showing how it connects to other boxes in the story (Figure 5). The interactivity in our system thus centred around giving readers a choice of location to visit.

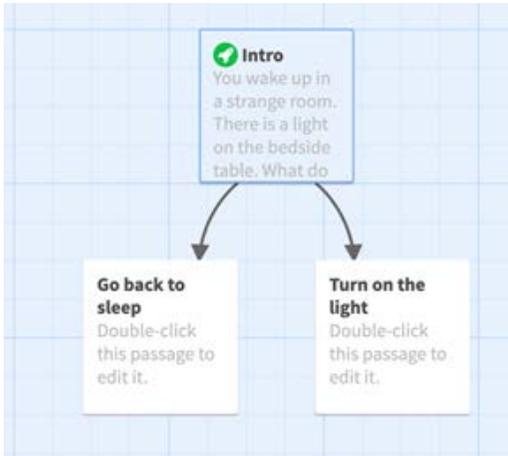
Figure 4

A dialogue box in Twine featuring two choices for the reader at the bottom.



Figure 5

A screenshot of Twine showing how dialogue boxes are linked.



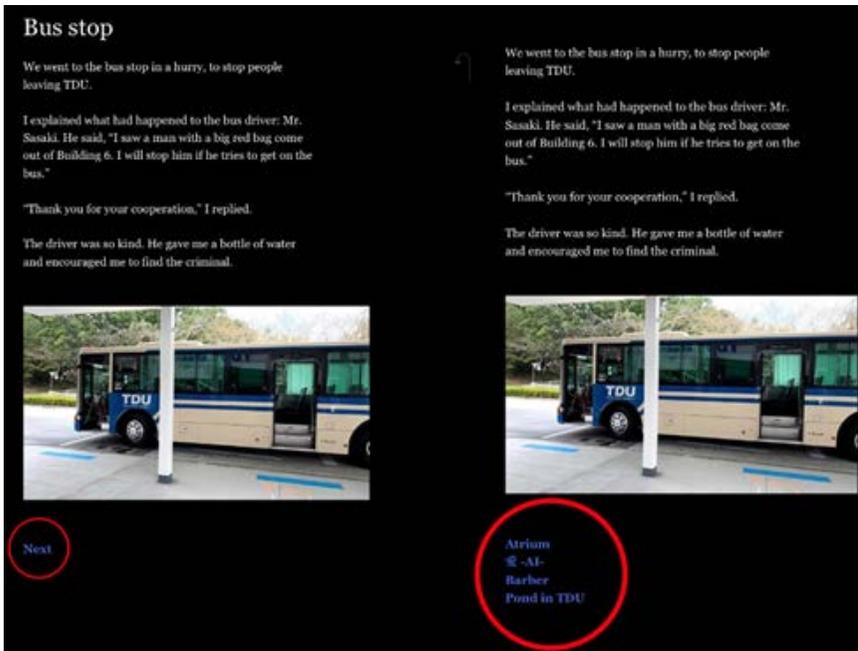
It is also worth mentioning that in order to keep the two modes of instruction as comparable as possible, unlike more traditional IF which allows the reader to experience different endings based on their performance through the story, our system featured a single ending. Player choice was thus enacted through the order in which they chose to visit the various locations.

GitHub

Upon the creation of both story types in Twine, the researchers hosted them as HTML webpages on GitHub. This allowed players/readers to access the story on their smartphones and or desktop PCs. The linear story may be accessed here: <https://kasumi21-i.github.io/HTML2/>. The interactive story may be accessed here: https://kasumi21-i.github.io/AR_Twine/. Figure 6 shows a side-by-side comparison of the two systems. The red circle shows how the interactive system (left) gave the user a choice in deciding where they went after reading the text at a specific location.

Figure 6

Comparison of the linear and interactive stories



Reading comprehension test

A comprehension test was administered after the intervention. The same test was given to each group. The test consisted of 15 questions, where two to three questions were based on each location. A full list is provided in Appendix 2. All questions were multiple choice with two wrong answers and a single correct answer.

System perceptions questionnaire

A questionnaire was designed to understand student perceptions regarding learning English with the two instructional systems. Six measures were utilized based on that of York, et al. (2021) and were weighted from 1 to 10, 10 being a strong indication of agreement and 1 disagreement with each statement. All measures are presented below:

1. It was fun to learn with this system
2. It was easy to read English with this system
3. It was difficult to control this system
4. I think this is an effective way to study English
5. The story was interesting
6. This system was easier than using a textbook

Gaming proficiency questionnaire

In order to understand whether gaming proficiency had an effect on test scores and perceptions, participants were asked about their gaming habits. Several questions were asked based on a survey created by the Computer Entertainment Supplier's Association

(CESA, 2010), however, eventually only one key question was referred to in determining a student's gameplaying familiarity: the amount of time they spend playing games each day (Question 1, below).

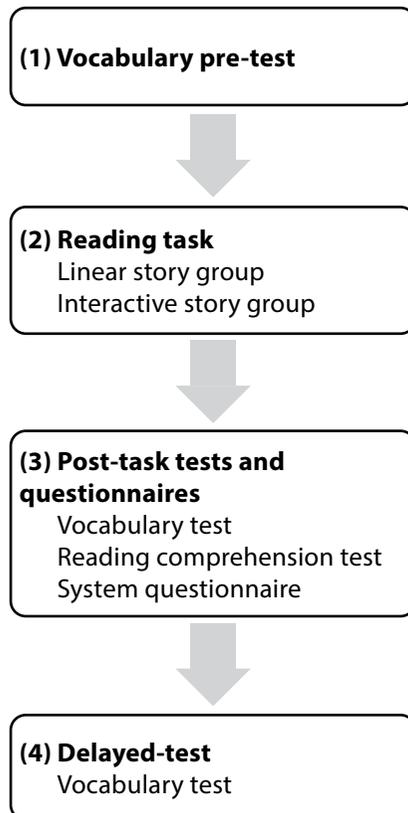
1. How often do you play games?
2. What platforms do you play games on?
3. On an average day, how long do you spend playing games?
4. What genres do you play?
5. What is your favourite genre?
6. How much time do you spend on the internet each day?
7. Have your gaming habits ever caused a problem for you?

Procedure

The experiment was an independent measures design where participants completed the reading exercise using either the control (linear) or experimental (interactive) systems. The procedure can be seen graphically in Figure 7. First, all participants completed the vocabulary pre-task (1). On completion of the tests, both groups read the story using their assigned system (2). After reading the story, all participants completed the post-reading vocabulary test, reading comprehension test and the system questionnaire (3). Finally, both groups completed the delayed task vocabulary test one week after the experiment (4).

Figure 7

The experiment procedure flowchart



Data analysis

A one-way repeated measures ANOVA was used to compare mean scores for the pre-experiment, post-task and delayed-task vocabulary scores. Secondly, *t*-tests were used to validate the difference in mean scores between instructional groups for the reading comprehension test. *T*-tests were also used to determine if participants' perceptions of the two systems were affected by mode of instruction (i.e., linear vs interactive modes). The statistical analysis software used was IBM's SPSS 24.

Finally, to explore the relationship between reading comprehension, instructional group (AR vs Interactional fiction) and gaming proficiency, a stepwise regression was run. First assumptions of normality were assessed for violations of assumptions of normality, linearity, multicollinearity, and homoscedasticity. Following this, the independent variables (vocabulary test scores or comprehension scores) and participant gaming proficiency (low, medium, high) were entered to control for any differences in gaming proficiency. Next, student membership in the instructional group was entered into the model. Finally, the interaction between instructional group and gaming proficiency was entered into the model. The results of the stepwise regressions were further analysed via ANOVA tests. R was used to generate certain plots and to run the stepwise regressions. An alpha level of $p = .05$ was set for all statistical tests.

Results

RQ1: System effects on vocabulary gains

Vocabulary gains by system

Table 1 reveals the descriptive statistics for this measure. Mean scores for both groups (linear and interactive) increased by approximately 3 points from the pre- to post-task stages, with scores staying approximately the same for both groups at the delayed task stage.

Table 1

Descriptive statistics for vocabulary scores by system.

Instructional system	Mean	Std. deviation
Linear story		
Pre-experiment	11.88	1.98
Post-task	14.44	1.45
Delayed-task	14.63	1.51
Interactive story		
Pre-experiment	11.87	2.13
Post-task	14.57	1.38
Delayed-task	14.53	1.47

Following the descriptive statistics, a repeated measures ANOVA was run on the data. Mauchly's test indicated a violation of the sphericity assumption, $\chi^2(2) = 31.36, p < .05$. Since

sphericity is violated ($\epsilon = 0.784$), Huyn-Feldt corrected results are reported. Vocabulary tests scores were not significantly affected by mode of instruction, $F(1.57, 134.90) = .19, p = .77$.

RQ2: System effects on reading comprehension

Comprehension test mean scores are presented in Table 2. There is virtually no difference between the comprehension test mean scores for the two groups, and similarly, no discerning difference in standard deviation.

Table 2

Mean scores for the reading comprehension test by system

Instructional system	Mean	Std. deviation
Interactive	12.41	2.18
Linear	12.34	2.05

An independent-samples *t*-test was conducted to compare mean comprehension test scores between the groups. There was **no significant difference** between the mean scores ($p = .87$). This suggests that the interactivity of the experimental system did not translate into an increased depth of reading comprehension.

As a summary of RQ1, results suggest that interactivity in the system did not have a statistically significant effect on learners' vocabulary acquisition or reading comprehension.

RQ3: Student perceptions of learning with IF

A post-task questionnaire was employed to explore differences in participant opinions of learning with each of the two systems. Mean scores and standard deviations for each measure are presented in Table 3 and graphically in Figure 8. General trends suggest little difference in perceptions between the two systems. All measures showed a positive and similar response apart from the measure regarding the difficulty of controlling the system, where predictably the participants considered the linear story system easier to control. *T*-tests were run on the data which revealed no significant difference between mean scores for any measure.

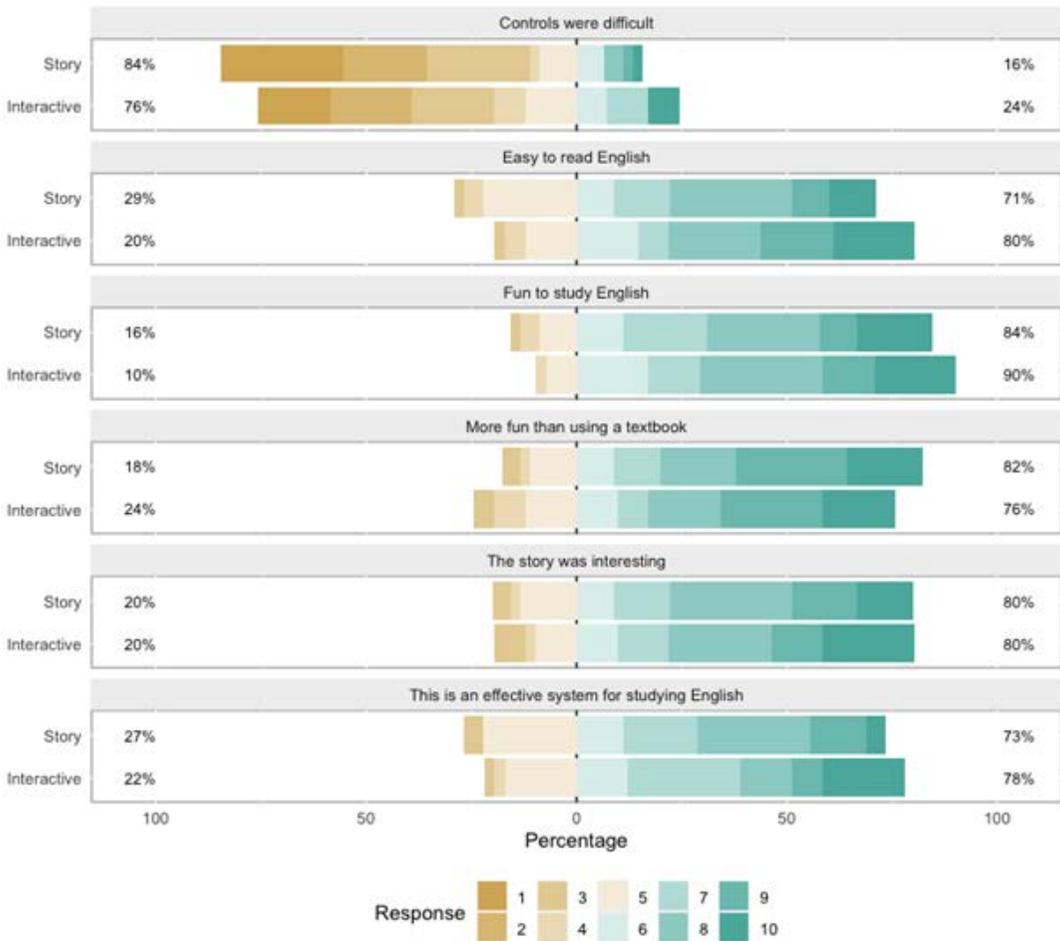
Table 3

Mean scores and standard deviations for measures on the post-task perceptions questionnaire.

Statement	Linear	SD	Interactive	SD
The controls were difficult	3.13	2.33	3.90	3.90
The system made it easy to read English	7.04	1.86	7.51	7.51
The system was fun to study English	7.47	1.82	7.73	1.66
This system was more fun to use than a textbook	7.69	1.98	7.41	7.41
The story was interesting	7.40	1.89	7.49	7.49
This is an effective study method	6.93	1.72	7.22	7.22

Figure 8

Graphical representation of post-task perception questionnaire scores.



Open-ended responses

A final section on the system perceptions questionnaire was provided to record open ended responses. 18 comments were recorded. Whilst some (n = 2) commented on the experience being interesting or fun, others mentioned specific positive and negative elements of the two systems. Firstly, two comments mentioned that seeing vocabulary in context helped them understand vocabulary meanings more easily:

[Linear Story 1] 物語の方が英単語を飲み込みやすく感じた。[I felt it was easier to understand the English words in the story.]

[Linear Story 2] 文章から意味の類推ができたため語彙テストより意味がわかった。面白かった。[I was able to understand the meaning better than in a vocabulary test because I could infer the meaning from the sentences. It was interesting.]

However, one comment suggested that remembering character names made learning through literature difficult, emphasizing the point that it is difficult to provide a motivating medium for all learners: **[Linear Story 3]** やはり短編だと登場人物の名前忘れますね... [As I thought, I forget the names of the characters in a short story...]

Another comment regarding the vocabulary test may provide evidence as to why the vocabulary test scores are so similar: the level of tested vocabulary being too low for the participants: [**Interactive 1**] 語彙力テストはあまり難しくなかったため難易度を挙げてもよいと思う [The vocabulary test was not too difficult, so I think the difficulty level could be raised.]

No comments specifically referenced the interactivity or choices presented by the interactive system. However, two comments mentioned that the UI was intuitive and that the black background made the text easy to read. It should be noted that neither of these elements was specific to the IF system, but a feature of both.

Finally, one comment from a participant that read the story using the interactive system mentioned that the story was long because they were not used to reading English: [**Interactive 2**] 英文を読み慣れていないせいか本文が長いと感じた。[I felt that the text was long because I was not used to reading English].

RQ4: Effect of participant gaming proficiency on learning gains and perceptions

Following the above tests to determine whether mode of instruction had an effect on learning gains, we investigated how participant familiarity with games and gaming may affect learning gains and system perceptions. In this study, gaming proficiency was calculated by asking participants how much time they spend playing games each day. The questionnaire featured a closed-ended question with the predefined responses being: None, between 30 and 60 minutes, between 1 hour and 2 hours, and so on. A participant's daily gameplaying time was taken as the mid-point of the category they selected. Thus, if a participant had selected "between 1 and 2 hours," their daily game playing time was converted to 90 minutes.

Based on this calculation, the mean daily game playing time for all participants was 126.65 minutes with a standard deviation of 74.81 minutes. As such, we defined three groups based on the amount of time they spent playing games daily. The LOW gaming proficiency group were classified as those who played for 1 standard deviation or less than the mean. The HIGH gaming proficiency group was defined as those who played for 1 standard deviation or higher than the mean. Students whose daily game playing time fell within 1 standard deviation of the mean were considered to have MEDIUM gameplaying familiarity. Thus, three groups were created. The three groups were further divided based on the system used in the experiment resulting in six groups (Table 4).

Table 4

Participant numbers based on gaming proficiency groups and system

Number of participants	Low	Medium	High
Interactive	8	20	13
Story	11	29	7

The following section thus explores RQ4: the effect of gaming proficiency on learning gains and perceptions of the two systems. It should be noted that two participants did not complete this survey, making the total number of participants 86.

Vocabulary and comprehension test scores by gaming proficiency and system

A stepwise regression was run to explore the relationship between vocabulary gains and reading comprehension scores based on gaming proficiency and instructional group (Linear vs Interactive fiction). First assumptions of normality were assessed, and it was determined that there were no violations of assumptions of normality, linearity, multicollinearity, and homoscedasticity. In the first step, students' gaming proficiency (low, medium, high) was entered to control for any differences in gaming frequency. Next, student membership in the instructional group was entered into the model. Finally, the interaction between instructional group and gaming frequency was entered into the model. As assessed by ANOVA, there were no significant differences in mean scores in R-square at any step for both vocabulary gains and comprehension scores. Table 5 shows the vocabulary test scores at each stage of the experiment by system and gaming proficiency, and similarly Table 6 shows mean reading comprehension scores.

Table 5

Vocabulary scores at each stage of the experiment by system and gaming proficiency

	Pre	Post	Delay
Low Interactive	10.38	14	13.88
Low Linear	12	14.91	14.82
Med Interactive	11.9	14.4	14.75
Med Linear	11.79	14.41	14.48
High Interactive	12.77	14.77	14.92
High Linear	12	14.71	14.29

Table 6

Comprehension test scores by system and gaming proficiency

	Low	Medium	High
Interactive	11.63 (n = 8)	12.35 (n = 20)	13 (n = 13)
Linear	12.27 (n = 11)	12.45 (n = 29)	12 (n = 7)

System perceptions based on gaming proficiency

Following the above statistical tests on vocabulary test score gains and comprehension test scores, the final analysis was to assess whether gaming proficiency had an effect on student perceptions of learning with each system.

Of the six questions asked of participants, only the measure regarding difficulty to control the systems revealed a significant difference in mean scores based on system and gaming proficiency ($f(80) = 3.54, p < 0.05$). Table 7 shows mean scores for this measure. Thus, and as expected perhaps, students with lower gaming proficiency struggled with the controls of the interactive system. However, as evidenced above, this perceived difficulty did not affect vocabulary or comprehension test scores.

Table 7

Control difficulty perceptions by system and gaming proficiency

	Low	Medium	High
Interactive	5.5	3.85	3.0
Linear	2.0	3.41	2.86

Discussion

This study explored the effects of interactivity and, more specifically, choice in interactive fiction on students' vocabulary acquisition and reading comprehension. Student perceptions were also investigated. Results suggested that although both groups showed gains in vocabulary test scores, there was not a statistically significant difference between means when factoring for instructional system or gaming proficiency. Similarly, there was no statistically significant difference in mean scores for the reading comprehension test based on system or gaming proficiency.

Implication for materials creators

The present study may act as a prototype or pilot study for materials creators or teachers that are interested in creating interactive fiction for their students. The IF software introduced (Twine) offers a simple GUI for creating interactive stories that may be as simple as our prototype here, or the more ambitious creator may experiment with variables, objects and multiple endings to create multimedia-rich, individualized experiences.

Implications for teachers

There is a glaring lack of teacher mediation in this pilot study. If used in a classroom, briefing and reflective activities may be implemented to ensure that any learning potential of the game is realized or at least connected to curricular goals (see York, Poole & deHaan, 2021). Another avenue of exploration for classroom implementation is students creating their own interactive stories. Indeed, work in this area has already begun as seen in the work of the FanTales project (Cornillie et al., 2020; Sauro et al., 2020).

Future research

The lack of any discernible difference in test scores between the two systems is not a cause for concern. Rather, it highlights that merely adding simple choices to an otherwise simple story is not enough to affect learning in any significant way. This inspires future research in the area of IF in language learning contexts. In a follow-up study, we plan on adding additional interactive components, more in line with text-based adventure video games, thus adding a requirement for the reader to input language in order to progress the story, where input is tied to target vocabulary.

Additionally, our original plan for this project was to have a third system to compare against the linear story and interactive story. The third system was to be an AR version of the same story, where readers would be required to go to various locations of the university

in order to unlock that part of the story. We had to cancel this plan due to COVID-19 forcing us into a remote teaching context. Our rationale for including this third modality was due to the relatively few studies in the research literature which have explored location-based learning and embodied cognition in language learning contexts (for examples, see Holden & Sykes, 2012; Sydorenko et al., 2019). Therefore, a further avenue of exploration is in how reading as an embodied experience “in the wild” may affect language acquisition.

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Appendix 1

The story created for this study

Intro

One day, I entered my classroom, looked around, and saw that my classmates were confused.

"Hey. What happened?" I asked them.

Then, my friends all pointed towards the whiteboard. There was a message that said:

"I've got your important things. If you want them returned, you have to find me."

I looked in my bag, and my pen case was missing.

I shouted, "Let's catch the criminal as soon as possible!"

After that, we left a note for our teacher, Mr. York, and started to try and solve the mystery.

Bus stop

We went to the bus stop in a hurry, to stop people leaving TDU.

I explained what had happened to the bus driver: Mr. Sasaki. He said, "I saw a man with a big red bag come out of Building 6. I will stop him if he tries to get on the bus."

"Thank you for your cooperation," I replied.

The driver was so kind. He gave me a bottle of water and encouraged me to find the criminal.

Atrium

I thought that the criminal could be hiding in the atrium, so we hurried there.

My friend Kai was there. He was in my English class. But today he was in the atrium... Maybe he was skipping class. I wondered if his pen case had been stolen by the criminal.

"Hi Kai. Did you skip English class today? We are looking for our pen cases because they were stolen. Do you have yours," I asked.

"Oh, hey," Kai said. "My pen case? Yeah, I have it. I also found this strange thing."

I looked down and saw that there were four cards on the table in front of Kai. Each card had something written on it:

[teacher]

[am]

[a TDU]

[I]

"Kai, where did you find these cards," I asked.

"I found them on the table after I bought some fries," Kai replied.

Who and why did someone give Kai these cards? We inspected them, they had other words on the back side of them: "From the pen case thief!"

愛 -AI-

My friend Yuka sent me a photo of the stone steps. Someone had written "To York's students" in chalk. We hurried to the stone steps.

I asked, "Yuka, what does this mean?"

She replied, "I don't really know but I think 'To York's students' means you."

There was more graffiti. It said:

"Do you want to know my name? There is a hint on AI"

"Yuka, can you see AI? What is written on there?"

Yuka climbed on top of the stone statue and found something else.

She said, "there is a capital Y on the top. I guess this is the initial of a word...?"

Barber

Toshi, who worked in the barber shop might know something because he has worked at TDU for a long time.

"Hi Toshi. Do you have time," I asked.

"Long time no see! What happened," he replied.

Toshi folded up his newspaper and looked at me.

"Do you know about the robbery in TDU," I asked, and we explained the incident.

After that he said, "Textbooks have been stolen in a class before. I forget the name of that criminal, but he is still at TDU."

That incident was similar to ours. Maybe the criminal is the same person...?!

I asked, "Do you remember anything about the criminal?"

After a while Toshi said, "He does not have black hair. I was surprised."

"Thank you," I replied.

Pond in TDU

I went to the lounge to get more information. There was a sign pointing towards the school pond "Den Ike." It said, "To York's students."

This was very strange! Anyway, we went down the stone stairs to the pond, but the pond was normal. There was nothing suspicious.

"Did you get any information," Sou asked. He joined us and searched for another hint.

"I thought there would be information here, but I couldn't find any," I said.

"I wonder if it is hidden by fallen leaves," Sou said quietly.

The ground in front of the pond was covered with fallen leaves. I moved them out of the way with a broom and found the numbers: 165.

Sou shouted, "Over here I found the word 'CM'!"

165 CM... Is this height?

End

Putting all the hints together, it becomes clear that the criminal can be only one person! Head back to the classroom to find out who it was.

Appendix 2

Comprehension questions

1. What did the culprit steal?
2. Where did the bus driver say he saw the culprit come from?
3. What did the bus driver give you?
4. What color was the culprit's bag?
5. What was written on the back of the cards in the atrium?
6. How did you know Kai?
7. What was the name of the person that climbed on "Ai"?
8. What was written on the top of "Ai"?
9. Where was the photo that persuaded you to go to "Ai"?
10. What was the barbershop worker doing?
11. What did the barber say was stolen in the past?
12. What did the barber say was a unique characteristic of the culprit?
13. Why did you go to Den-ike?
14. Where was the hint hidden at Den-ike?
15. What was the hint at Den-ike?

Authors' bios

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7

Enhancing and expanding intercultural learning through collaborative online international learning

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Abstract

This study investigated first-year Japanese university students' perspectives of their intercultural learning from a collaborative online international learning (COIL) project with second-year university students in China. Drawing upon Deardorff's (2006) process model of intercultural competence, this pilot study used reflections and data from a questionnaire adapted from Ceo-DiFrancesco and Bender-Slack (2016) to monitor students' perspectives for intercultural attitudes (openness, curiosity, respect), intercultural knowledge (culture-specific information), and motivation to learn English after participating in an eight-week-long virtual cross-cultural exchange. Following this eight-week virtual cross-cultural exchange with second-year university students in China, self-assessment from participants in Japan ($n = 39$) revealed intercultural attitudes of valuing others, withholding judgment, and curiosity. Additionally, the students described the importance and enjoyment of English. In addition to highlighting the Japanese participants' perspectives of this COIL project, this paper describes the impetus for setting up the program, the program itself, and implications for various stakeholders in higher education in Japan.

本研究では、日本の大学1年生が、中国の大学2年生との共同オンライン国際学習 (COIL) プロジェクトから得た異文化学習についての視点を調査した。Deardorff (2006) の異文化間能力のプロセスモデルを参考に、本パイロット研究では、Ceo-DiFrancesco and Bender-Slack (2016) をもとに作成した質問票の振り返りとデータを用いて、8週間のオンライン異文化交流に参加した後の、異文化的態度 (開放性、好奇心、敬意)、異文化的知識 (文化固有の情報)、英語学習の動機付けに関する学生の視点をモニターした。中国の大学2年生と8週間の仮想異文化交流を行った後、日本の参加者 ($n = 39$) の自己評価では、「他者を大切にする」「固定観念にとらわれない」「好奇心を持つ」といった異文化意識が見られ、英語の重要性や楽しさについても述べられていた。本論文では、COILプロジェクトにおける日本の参加者の視点を紹介するとともに、プログラムを立ち上げたきっかけ、プログラム自体、そして日本の高等教育における様々な関係者への影響についても述べている。

Introduction

Recent government initiatives in Japan (e.g., Global 30 Project, Top Global University Japan, CAMPUS Asia) have aimed to internationalize higher education and foster global *jinzai* (global human resources). While interpretations of internationalization are diverse, private universities in Japan tend to interpret internationalization by providing increased opportunities for students to participate in international exchanges (Yonezawa, et al., 2009). The Council on Promotion of Human Resource Globalization Development (2012) describes global *jinzai* as encompassing 1) linguistic and communication skills, 2) skills of stepping forward, thinking well, and working in teams, and 3) intercultural competence. This definition was a simplified version of the original one provided by the Ministry of Economy, Trade, and Industry (METI) and the Ministry of Education, Culture, Sports, Science, and Technology (MEXT). Studying abroad and international exchanges for the public and private sectors have been popular methods for Japanese youth to foster connections and cooperation (Yonezawa, 2014). Deardorff (2004) described study abroad as one of the most effective means for increasing intercultural communicative competence. While the benefits of overseas exchanges are widely described in the literature, not all students desire or can participate in a study abroad program.

Virtual, cross-cultural exchanges offer equitable and affordable opportunities to internationalize the curriculum (Blake, 2013; Ceo-DiFrancesco, 2015; Schenker, 2013). In addition to students who are unable to study abroad, virtual cross-cultural exchanges can offer opportunities for intercultural experience to those unwilling to study abroad (Kinginger, 2009; O'Dowd, 2016). Collaborative online international learning (COIL) is a type of virtual exchange that has become one of the most popular virtual exchange networks in the world (O'Dowd, 2018). The SUNY COIL Center defines COIL as "globally networked learning and virtual exchange, a new teaching and learning paradigm that promotes the development of intercultural competence across shared multicultural learning environments" (SUNY COIL Center, 2015, pg. 4). In brief, COIL is a type of virtual exchange that connects two or more classes in different locations under the guidance of teachers or facilitators. Vahed and Rodriguez (2020) and Nava-Aguirre, et al. (2019) attribute part of COIL's recent popularity to its cost-effective and innovative approach to increase international learning opportunities.

Recent research (Belarga, 2018; Swartz, et al., 2020; Liu & Thomas, 2021) has reported heightened intercultural competence through virtual exchanges. Other recent research (Ceo-DiFrancesco & Bender-Slack, 2016; Nishio, et al., 2020), in addition to a heightened intercultural perspective, has reported COIL participants' heightened language motivation. While these reports are encouraging, COIL projects can take many different forms in terms of the structure, the project, and the participants. Therefore, more understanding is needed about the diverse experiences and perspectives of COIL participants. This study aims to build our understanding of COIL through the perspectives of Japanese university students who collaborated in a virtual exchange with Chinese university students.

The purpose of this study is to highlight what 39 first-year university students in Japan in two EFL communication skills classes reported to have learned and developed from participating in an eight-week COIL project with 44 first-year university students in China. Intercultural competence has been increasingly studied by researchers in a variety of intercultural exchanges, notably study abroad. Research studies (Edwards, 2009; Ingulsrud, et al., 2002; Koyanagi, 2018; Ujitani, 2012, 2013, 2017; Yashima, 2010) on short-term study abroad programs have reported the development of intercultural competence of Japanese university students in their exchanges. However, relatively little is known about the intercultural development of Japanese university students participating in the increasing number of short-term exchanges in Asia. Prior to the COVID-19 pandemic, reports (JAOS, 2018; JAOS, 2020) from the Japan Association of Overseas Studies (JAOS) noted the increasing number of students from Japan studying in Asia, particularly the Philippines. In 2018, the Philippines overtook the United Kingdom as the number four most popular destination. The Philippines experienced a 20% increase in Japanese university students (JAOS, 2020). As with study abroad, there is a lack of research on intercultural development with Japanese students participating in COIL projects with students in Asia.

This paper adopts Deardorff's (2006) process model of intercultural competence as a lens to view the lifelong development of intercultural competence. Deardorff (2006) defines intercultural competence as the "ability to communicate effectively and appropriately in intercultural situations based on one's intercultural skills, and attitudes" (p.249). Deardorff's (2006) process model sees intercultural competence as a lifelong process. Thus, one always has the ability to continue to develop attitudes, knowledge, and skills to interact with others. To begin, the process of developing intercultural competence begins with the requisite attitudes of curiosity, openness, and respect. These attitudes form the jumping-off point from which one begins the process of developing intercultural competence. According to Deardorff's (2006) model, once one starts developing more openness, curiosity, and respect for others, they will begin to develop deeper intercultural knowledge. Here the intercultural speaker develops cultural self-awareness, deep cultural understanding, and sociolinguistic awareness. Absent in the knowledge section in the process model, but present in the knowledge section of Deardorff's (2006) pyramid model of intercultural competence, culture-specific knowledge can be developed after developing the critical intercultural attitudes. With these attitudes and knowledge, one can start the lifelong process of developing the skills necessary to interact appropriately and effectively in intercultural situations. As these attitudes and knowledge lead to more appropriate and effective communication skills, this paper aims to look at what intercultural attitudes and culture-specific knowledge Japanese participants report in their learning from their communication and collaboration with their peers in China.

In summation, despite the increase in articles and studies on virtual cross-cultural exchanges that have been promoted by the Japanese government, at the time of writing, the author was unable to locate studies on virtual exchanges between a classroom of students in Japan and a classroom of students in China. The purpose of the research is to gain a better understanding of students' learning and perceived intercultural development after participating in an eight-week COIL project. Additionally, this research aims to understand students' attitudes toward foreign language learning through collaborative online international learning.

Method

Context

This COIL project connected students at a private university in central Japan with students at a public university in northern China. The COIL module took place between September 2020 and November 2020. The two facilitators talked over email for three months to discuss their objectives and prepare the COIL module. The COIL module paired two EFL classes of first-year students at a private university in central Japan ($n = 39$; females $n = 25$, males $n = 14$) with one EFL class of second-year students at a public university in China ($n = 44$). In groups, the students discussed four different topics and then chose one topic to further research. Each group presented their research in a joint Zoom class at the end of the eight weeks.

The structure of this eight-week COIL module allowed for work to be done outside of class meetings through Zoom. During the time of this module in the fall of 2020, both classes met online, both synchronously and asynchronously. The module involved four phases over eight weeks. Before the first week, both facilitators downloaded and installed WeChat, a messaging and calling app available in China and Japan. The 39 Japanese students and 44 Chinese students were assigned into 20 groups. In week 1, phase 1, the students participated in an icebreaker activity. The students recorded a short video of 90 seconds or less where they introduced themselves to their group members of four to five students. After they watched the videos, the students were asked to ask one or two questions to each group member based on the information in their video. Following this activity in Phase 2, each week's activity, the students discussed a different topic each week by recording a short video talk and then asked and answered questions about the information shared in the video. Then, the students filled out a weekly reflection on Google Forms. The students answered the following questions:

1. What was interesting about your interactions this week?
2. What did you learn from your interactions?
3. What would you like to know more about?

In Table 1, there are two topics listed in Phase 2 (Weeks 2–5). Due to time constraints, the students could choose to discuss either interpersonal relationships or careers. Next, in Phase 3, during Weeks 6–7, the group members selected a topic they discussed previously to research in more depth. Each group created a survey based on that topic and administered it to 50 Japanese participants and 50 Chinese participants. Then, the group analyzed the results, made a PowerPoint presentation to present their research in a joint Zoom meeting on November 9. Following their presentations, the Japanese students completed a survey adapted from Ceo-DiFrancesco and Bender-Slack (2016) to understand the students' motivation to learn English and intercultural attitudes after participating in a COIL project with university students in China. At the end of the survey, the students wrote a reflection on their COIL experience.

Table 1

COIL module outline over the course of eight weeks

Phase	Week	Activities	Dates
Prep	0	Preparation – Install and check required software/ assign students into groups on WeChat (WeChat)	9/14–9/20
1	1	Icebreaker – students get to know each other, learn about each other’s local environment, students learn about Japan/China (WeChat) Reflection (Google Forms)	9/21–9/25
2	2	Discussion – Summer vacation (WeChat) Reflection (Google Forms)	9/28–10/4
2	3	Discussion – Food (WeChat) Reflection (Google Forms)	10/5–10/11
2	4	Discussion – holidays and traditions (WeChat) Reflection (Google Forms)	10/12–10/18
2	5	Discussion – interpersonal relationships/careers (WeChat) Reflection (Google Forms)	10/19–10/25
3	6–7	Project report – Conduct a survey on one of the four topics/ Create PowerPoint presentation Students give joint presentations on their research during a Zoom meeting during class for the university students in China. (PowerPoint, WeChat & Zoom)	10/26–11/9
4	8	Reflection (Google Forms)	11/9–11/15

The participants (n = 39) in two classes were enrolled in compulsory English classes at a private university in central Japan. One class (n = 19; males, n = 8, females, n = 11) were Humanities majors, while the other class (n = 20; males, n = 6, females, n = 14) consisted of English majors. These first-year students were either 18 or 19 years old. The students did not necessarily share the same level of English. No formal English proficiency test was administered to the first-year Japanese students. However, one class consisted of English majors while the other class consisted of Humanities majors. In general, the class of English majors in Japan possessed an upper intermediate to advanced level of English proficiency, and the class of Humanities majors in Japan possessed an intermediate level of English. The following questions framed this initial pilot study.

1. What intercultural attitudes of curiosity, openness, and respect, if any, do Japanese university students report to have developed from participating in a COIL project with Chinese university students?
2. What cultural-specific knowledge (analyzing and explaining basic information about a group of people), if any, do Japanese university students report to have developed from participating in a COIL project with Chinese university students?
3. What learning, if any, do Japanese university students attribute to their COIL project experience?

A survey and open-ended questionnaire were given to the participants at the end of the eight-week COIL module to answer these questions.

Data collection

Data was collected from a post-test survey administered in Week 8 of this module. The survey (see Table 1 for the list of 12 statements) was adapted from Ceo-DiFrancesco and Bender-Slack (2016). The survey had two parts. The survey contained a set of 12 Likert-scale statements regarding language learning, language motivation, intercultural attitudes, and intercultural knowledge. The questionnaire asked three open-ended questions 1) What did you learn from this project? 2) Why is that important? 3) How will that help you in the future? The survey was made into a Google Form and sent electronically to the students via the class LMS. The students filled it out within a week of receiving the Google Form.

Data analysis

The quantitative data from the survey was analyzed using simple quantitative analysis. For the second part of the post-test questionnaire, thematic coding (Saldaña, 2013) was used to analyze the open-ended questions. As initial themes were developed, more focused coding was used, as Charmaz (2014) suggests, to develop more salient themes across all the data. The categories noticed were as follows: 1) intercultural attitudes, 2) learning the importance of and finding enjoyment in English communication, 3) Learning research and leadership skills.

Results

Post-test survey

Table 2 shows the statistical results of the post-test survey questions. All of the answers had mean answers higher than the neutral answers of 3. Statements one and two concern motivation towards learning English. Statements three, four, and five refer to English ability. Statements six, seven, eight, and nine refer to confidence and comfortability using English. Finally, statements 10, 11, and 12 reflect an intercultural attitude. The English majors rated each statement higher than the Humanities majors. In order of agreement, the statements reflecting an intercultural attitude were rated the highest by both groups. In terms of English, participants rated a motivation to learn English higher than comfortability and confidence to use English and ability to use English. Statements mentioning English ability improvement were rated the lowest of all the statements.

Table 2

COIL module post-test survey

	EM^a	SD	HM^b	SD
1. I am more motivated to learn the language through participating in this course.	4.19	0.87	3.75	0.91
2. Due to this COIL experience, I am more motivated to further my English competency for use in my future work or career.	4.24	0.77	3.9	0.79
3. I feel that my language skills have improved.	3.71	0.78	3.6	0.75
4. I feel that I can speak with more fluency now than prior to my participation in this program.	3.43	0.93	3.15	0.88
5. My comprehension of spoken English has improved due to this program.	3.95	0.80	3.65	0.59
6. I feel confident speaking English after participating in this program.	3.55	0.94	3.2	0.83
7. I feel more comfortable speaking in class now than I did before I participated in this program.	3.62	0.97	3.45	0.89
8. I feel more comfortable speaking with a native speaker now than I did before I participated in this program.	3.95	0.87	3.7	0.92
9. I feel confident that I can conduct virtual meetings in English in a work environment.	3.76	0.89	3.15	0.88
10. This program has made me more aware of the needs, interests, and abilities of others.	4.38	0.67	4.05	0.51
11. This program has changed the way that I interact with others of a different cultural background from my own.	4.29	0.72	4.00	0.86
12. Due to this experience, I would like to study abroad.	4.29	1.01	3.45	1.39

Note. n = 39. ^aEM = English majors (n = 20). ^bHM = Humanities majors (n = 19). This survey was adapted from Ceo-DiFrancesco and Bender-Slack (2016)

Post-test questionnaire

The findings highlight the attitudes and knowledge students attributed to the COIL experience. Coding of the participants' responses from their post-test survey led to the identification of the following overall themes: intercultural attitude, the importance of communication, and personal development. This section provides examples from participants' responses to the post-test questionnaire. Readers will notice some overlap in themes in the excerpts below. Not all responses fit neatly under one specific theme. The responses were coded under the theme they were best situated. Pseudonyms are given to protect the identity of the participants.

Intercultural attitudes

In the post-test questionnaire, the themes of intercultural attitudes of openness, curiosity, and respect were noticed in participant comments. Comments showing openness, curiosity towards other cultures, and respect for others, were present throughout their reflections. For instance, Kenta mentioned how he was interested in cultural differences, how they became close, and how he wanted to meet them.

We were able to get to know each other's cultures, and by talking through English in different languages, we became closer to each other... I wanted to meet and talk with them... I have two other things to talk about. The first is the attitude of actively trying to communicate with foreigners. Through this project, my attitude toward English has changed. Next, I found it fun to use English, so I thought it would be good to get a job that uses English in the future. (Kenta, HM).

Participants, like Shion and Maya, showed respect when they mentioned the importance of seeing different perspectives and how being open to other perspectives and kindness will be necessary in the future. "The experience I gained here enriches my everyday thinking. (It) eliminated many prejudices and enabled multifaceted thinking... It may be difficult to completely eliminate prejudice, but I think this kind of thinking will be required in the future." (Shion, HM).

What I think is important to learn from COIL is to put yourself in the other person's shoes. Conversation is nothing without the other person, so it is important to think about what words you use and whether your words will hurt the other person when you say them... This kind of compassion and understanding of people will be useful in the future. (Maya, HM).

Another participant's comment describes his desire to know more about China and his willingness to communicate with others. This attitude led to more knowledge of China.

By making friends of different nationalities who are the same age as me, I learned more about China, and I found it fun to make more friends with different values. I was hesitant to talk to foreigners before, but now I am going to have the courage to talk to them. (Kotaro, HM).

Participants, like Shion, echoed Kotaro's desire to know more about China, but they also hoped for improved relations between the two countries. "I could learn a lot about China. I wanted to know more about China, and I wish we could have a better relationship with each other" (Shion, HM). Another participant, Masa, saw the wide-ranging effects of this COIL experience that extend beyond the personal level. "...this COIL experience with Chinese and Japanese members will lead to deepen the intercultural and mutual understanding; between different countries" (Masa, HM).

Other comments from the students mentioned their curiosity about different cultures and how they wanted to study abroad or visit China in the future. Another participant, Hana, illustrates the intercultural attitude of curiosity as follows:

COIL experience is important for me because I would never experience such a thing.

In this COIL group WeChat, we talked about many things in English. I was surprised that I could chat with foreigners. It was fun and exciting to have a chat with Chinese students and I liked their cultures and their personalities. Due to this experience, I would like to study abroad. I would like to visit another country especially, China or other Asian countries. I want to know more about their cultures. It was a great experience to have a presentation with Chinese students. (Hana, EM).

Finally, participants, like Midori and Kana, showed an interest and a desire to help others. They also mentioned the benefits and challenges of communication in English across cultures.

I think this experience might be helpful to me when I have to use English at company. Moreover, I might be able to help foreign people who come to Japan and are worried. If I experience some English studies, I will be confident which I speaking in English. By interacting with various people through English, I think I can broaden my horizons. (Midori, HM).

I learned similarities and differences between Japan and China. I think the important things are knowing culture differences and the way to do some assignment together. In the point of knowing culture differences, I especially interested in the way to think about job. It is great experience to share our idea of each countries. Then, I found it is difficult to prepare presentation together. The hardest point is that we have to speak English because they can't understand our language. I think it is very hard work for me. (Kana, EM).

Learning the importance and finding enjoyment in English communication

Like some of the previous comments, the topic of English communication appeared in most of the reflections. In addition to the enjoyment and difficulty of using English to communicate and collaborate, participants mentioned that they learned the importance of English as a tool for communication and collaboration. Participants noted the difficulties of using English to communicate with their partners in China. Despite these difficulties, the partners did mention some benefits they realized from the challenging experience.

I learned so many things from COIL experience. At first, English is really important and convenient language to communicate with other countries' people. If I don't understand English, I can't speak and be friend with them. Secondly, it's really hard to do a presentation with people whose language is different. If I do a presentation task with Japanese students, I can use Japanese and share our works very easily. However, we don't have any choice but to use English this time so I tried to use English that can make it easy to make people understand. That was really interesting for me. (Maya, EM).

In addition to the difficulty of using English to communicate and collaborate across cultures, students described improved communication ability. One student mentioned how she eventually improved the speed of her responses in English.

First, I could learn the difficulty of communicating with the two Chinese members because all of us had to use English though we speak another language as our mother tongue. Therefore, it took me a minute to send what I wanted to say. However, from this experience, I became sooner to reply a message in English. Another thing I learned is the importance of cooperating with each other. We needed to cooperate to make a better presentation slide and a PowerPoint, so we frequently contacted on WeChat. Thanks to our effort, we managed to introduce research we had conducted to Japanese and Chinese students. (Yuna, EM).

Many of the reflections from the participants described the difficulty of understanding the English that the Chinese students used. However, most of the students saw this challenge as a positive experience. The following comment from Nao describes how she was forced to ask more questions. As a result, she commented on increased knowledge about China and improved listening ability and vocabulary.

It was a very good opportunity to improve my listening ability. When there were words that I couldn't understand no matter how many times, I asked. I could find out more about China by researching about its history and the region in which they lived. Moreover, I was able to increase my vocabulary words and grammar because the Chinese members sent it to WeChat with vocabulary words and grammar I don't usually use. (Nao, EM).

Finally, in addition to an awareness of varieties of English, some students described how this experience motivated them to improve their English ability. Participants like Kenta, mentioned their motivation to use English in the future. "Through this project, my attitude toward English has changed. Next, I found it fun to use English, so I thought it would be good to get a job that uses English in the future" (Kenta, HM). Additionally, other participants mentioned their heightened motivation to improve their English now.

I was able to know how foreign people use English and speak in English every day. I haven't had a chance to speak in English in this way with foreign people, so I only knew English which Japanese use and speak in. In fact, I thought I have to study English harder through this experience. It was a very good stimulus. (Midori, HM).

I want to study English further. I am glad that I was able to talk with people who have different native language through English. Due to the COVID-19, we could not go to school, and I did not have a chance to talk with people from different countries, but it was great opportunity to interact by COIL project. I was very happy to communicate with the students in the same group. It was a wonderful memory to give a presentation by cooperating with each other. My members gave a lot of opinions. I want to keep in touch with them. (Risa, EM).

Learning research and leadership skills

Finally, participants described the positive experience they had collaborating with their Chinese peers. They described other developments beyond communication and intercultural attitudes. Some of the participants described the research and virtual learning

skills they improved. In addition to Nao's previous comment about improved listening and vocabulary, Nao described improvement in terms of collecting data, analyzing data, and presenting the data.

Working together with the Chinese members on the assignment has improved my communication and presentation skills. Our group were able to produce high-quality output based on the process of information collection, information analysis, concept, and expression. I felt that the process of advancing the assignment would lead to future work. I think that creating the theme, conducting questionnaires, and summarizing the results led to an improvement in problem-solving capabilities. Moreover, through the statistical analysis of the survey, I think I have gained a lot of power to organize using Excel and PowerPoint. (Nao, EM).

Not all participants mentioned an entirely positive experience. Yet, participants like Yuji were able to describe some of the research and technological skills they learned through this project.

I don't think I learned much useful stuff from this project. In fact, I had already experienced working with a foreigner on a project when I was in high school. In person, of course. That's why I felt it was a little unsatisfactory that the project was done online this time. However, what I got as an experience was not entirely lacking. First, I learned the skills of applying PowerPoint. Secondly, I was able to think through the appropriate choice of words when giving the questionnaire to my Chinese friends. The experience of creating a bar chart in PowerPoint will serve me well for the rest of my life. In that respect, I feel that the hard work was worth it. (Yuji, EM).

Another student described his learning in terms of being able to be himself. At the beginning of the year, this student felt that other students relied upon him too much because his English was at a higher proficiency than his peers. This resulted in him taking a more passive role in our classes. However, after seeing his Chinese group members take on a leadership role in their group, he gained the confidence to be himself in class.

I found I do not have to lead every group work. Since April, I have tried to manage people to finish work because no one say, "Yes," when I asked him or her to be that role. But, thanks to my Chinese group members, I could notice that not everyone is so lazy. They lead this COIL project. Although I was little inactive. I found I need to come back to myself to what I wanted to be. The motivating behavior of Chinese members gave me courage. (Yuya, HM).

In conclusion, the participants rated their interest in other cultures and motivation to learn English higher than their confidence and ability to use English. The participants' post-test reflections described their intercultural attitudes of curiosity, openness, and respect. The second research question sought to understand what cultural-specific knowledge the participants attribute to this COIL experience. Comments on cultural-specific knowledge, explaining and analyzing basic information about a specific group of people, were hinted at or relatively vague. Additionally, the third research question sought to understand what learning COIL participants attribute to their COIL experience. The participants expressed

that they learned or felt a certain degree of improvement in their communication ability. Furthermore, the participants described learning the value of English in terms of communication and collaborating. Finally, participants mentioned other developments in research and leadership.

Discussion

The participants in this investigation described their intercultural development, communicative development, and personal development. In the participants' reflections, these areas of development were prevalent. In terms of intercultural development, the participants described attitudes of curiosity, openness, and respect. Deardorff's (2006) process model of intercultural competence posits these attitudes as the jumping-off point to start the lifelong process of developing intercultural competence. These attitudes can lead to a deeper knowledge of cultures and, thus, the skills to interact appropriately and effectively in intercultural situations. Participants mentioned that they learned about China or wanted to learn more about China. The lack of culture-specific knowledge in the participants' reflections is not surprising due to the limited duration of this program. Deardorff (2004) describes that intercultural attitudes are the most realistic expectation to be developed from short-term study abroad programs. This eight-week program is about the same length as many short-term overseas programs. The participants' comments on intercultural attitudes developed can help explain the high ratings of statements referring to intercultural attitudes from Ceo-DiFrancesco and Bender-Slack (2016).

Participants also reported learning the difficulties and challenges of using English to communicate and collaborate with their group members in China. Despite these challenges, the participants kept a positive attitude toward English. This is evident from comments describing how fun it was to use English to collaborate. Additionally, the participants described their learning of the importance of English along with their motivation to improve their English. For many of the students, this was their first time to use English outside of the classroom with non-Japanese speakers. The results from the survey from Ceo-DiFrancesco & Bender-Slack (2016) can help explain these comments about the difficulty of intercultural communication and the importance of English from the post-test questionnaire. In the survey, statements referring to English development were rated the lowest, yet the motivation for improving English was rated slightly lower behind their intercultural attitudes.

Besides intercultural development and learning the importance of English, participants mentioned their personal development through this COIL project. Comments regarding other developments came in the form mainly of learning how to use technology to conduct, analyze, and present their research. Participants used social networking sites, survey-making websites, collaborating software, PowerPoint, and Excel in this project. Additionally, one participant mentioned how he was inspired and motivated by his Chinese group members' leadership. Thus, he reported gaining confidence to be himself in class. Careerwise (n.d.) describes motivation and independence in their list of aspects of successful online learners.

The reports from the participants in this study in terms of intercultural attitudes, enjoyment of English, learning about the importance of English, and virtual learning skills

are encouraging. However, like any self-reports, the responses from participants may fall victim to social desirability bias. Vande Berg, et al., (2012) describe the importance of exercising a healthy degree of scepticism in self-reports in study abroad participants. The same degree of scepticism should be exercised here. Future studies should consider anonymous pre- and post-test surveys and reflections as one way to reduce participants providing what they might feel to be the more appropriate answer.

Implications

There are several implications of this research involving university students who participated in collaborative online international learning. First, COIL projects offer the potential for participants to develop intercultural attitudes of openness, curiosity, and respect. Furthermore, COIL participants may develop a heightened appreciation of the role of English in intercultural communication and thus be more motivated to improve their English. Next, participants can develop their virtual learning skills and confidence to use English in online collaborative situations. Finally, for higher education institutions in Japan, COIL projects like this one can offer opportunities for all students to interact in intercultural situations. Participants in this project also showed interest in studying abroad in the future. COIL projects with first-year university students may increase their interest in participating in short-term or long-term study abroad programs in their second and third years at university. For administrators looking at developing the so-called global *jinzai* or promoting internationalization on their campuses, COIL projects can help work towards those goals, especially when study abroad programs or overseas exchanges are cancelled or put on hold due to a global pandemic like with COVID-19 in 2020 and 2021.

Conclusion

This mixed-methods study aimed to understand what 39 first-year Japanese university students reported learning from participating in a collaborative online international learning project with university students in China. The Japanese university students described development in intercultural attitudes consistent with intercultural attitudes of curiosity, openness, and respect. These attitudes form the jumping-off point of intercultural competence development in Deardorff's (2006) process model of intercultural competence. Moreover, Japanese university students mentioned they learned the importance of English for communication and collaboration. Finally, the students described an enjoyment and motivation for English and improved leadership and virtual learning skills.

In light of the current COVID-19 restrictions on overseas exchanges and study programs and economic and time barriers that limit participation in study abroad programs, COIL projects offer opportunities for all students to develop intercultural competence, communicative competence, and virtual learning skills. These skills encompass the description of global *jinzai* from both the position of METI and MEXT. According to the Council on Promotion of Human Resource for Globalization Development (2012), global *jinzai* linguistic skills, positive and flexible attitudes, and intercultural understanding will be necessary for Japan's workforce to be active on the global stage. Projects like COIL may help set up students to interact more effectively and appropriately in local and global communities

through developing their intercultural competence, foreign language competency, and virtual learning skills. While facilitating COIL projects can be challenging and cannot duplicate face-to-face collaboration, the outcomes can produce long-lasting impacts on participating students and facilitators.

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8

Doing peer feedback in a high school EFL writing class via Google Docs and Sheets: A workshop

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Abstract

A number of viable inputs for improving student essay drafts are available for writing teachers to employ inside the classroom, one of which is peer feedback. In this article, key findings based on high school EFL writers' responses to pre- and post-study questionnaires on perspectives on peer feedback are presented. A replicable peer feedback workshop employing Google Docs and Google Sheets is included. This workshop forms part of a show and tell presentation which was held at the JALTCALL2021 all-online conference entitled, "Trialing of ICT-mediated feedback types in an EFL process writing class: Students' perspective." Answers to three research questions are provided: (1) How effective is the trialled peer feedback procedure?; (2) How appropriate are Google Docs and Google Sheets in mediating the trialled peer feedback procedure?; and (3) Are there any changes in students' (n = 232) perspectives on doing peer feedback after the trialling study? Other interesting findings emanating from Google Forms student questionnaires and teacher field observation notes are enumerated to provide insights for further exploration through future scholarly endeavors.

生徒の論文の原稿を改善するために、教師が利用できる有効な活動は数多くあるが、そのうちのひとつが「ピアフィードバック」である。本論文では、高校生がピアフィードバックに対する見解について、実験前後のアンケートに回答した結果を紹介します。また、Google DocsとGoogle Sheetsを用いたピアフィードバック・ワークショップについて紹介します。このワークショップは、JALTCALL2021の年次会議で行われた「Trialing of ICT-mediated feedback types in an EFL process writing class」と題する発表の一部である。3つの研究課題に対する解答が示されています。(1)試行したピアフィードバックはどの程度有効か、(2)ピアフィードバックを行うのに、Google DocsとGoogle Sheetsはどの程度適切か、(3)実験後に学生(n = 232)のピアフィードに対する考え方に変化はあるか、(4)ピアフィードバックはどの程度効果があるか、(5)実験で得られた成果はどの程度か。その他、Googleフォームを用いた学生アンケートや教師の観察記録から得られた興味深い知見を紹介し、今後の学術的な取り組みを通じて、さらなる探求のための洞察を提供する。

Keywords: Peer feedback, Google Docs, Google Sheets, BYOD, high school EFL writing

Introduction

Various effects resulting from peer feedback practice among student writers were found in relevant scholarly endeavors. One, in fact, found peer editing to be beneficial in developing learning autonomy, boosting writing skills and know-hows, and making students more aware of the complexity of the writing process (Deni & Zainal, 2011). Another awareness that peer feedback fosters is letting peers see themselves as socially-situated actors in a writing discourse that happens as a social practice (Kasule & Lunga, 2010). Underpinnings such as Vygotsky's (1978) Zone of Proximal Development (ZPD) and socio-constructivist theories further inform the praxis of peer feedback as a catalyst for the co-creation of knowledge among learners.

Such peer feedback highlighted in the workshop included in the present study is of an ICT-mediated (Information and Communication Technology-mediated) approach. In particular, Google Docs (Google word processing application; docs.google.com) and Google Sheets (Google electronic spreadsheets application) serve as vehicles to carry out the feedback procedure. The unique features of Google Docs such as Document Sharing and Real-time Collaboration (Ambrose & Palpanathan, 2017) enable student writers from different locations to work on the same document at the same time (Colpitts & Past, 2019).

ICT integration in Japanese high schools has taken a pivotal role in the Japanese government's drive to promote the GIGA (Global and Innovation Gateway for All) School Concept (Horita, 2021). GIGA's main goals of (1) providing a ratio of one-to-one computing environment among students and (2) encouraging teachers to adapt an eclectic yet effective combination of Japanese traditional pedagogy and cutting-edge technology serve as a toll order for all educators to integrate ICT (Kihara, 2021) across the curriculum (termed as course of studies by MEXT – Japan's Ministry of Education, Culture, Sports, Science and Technology). The current study is in congruence with the overarching goals of the GIGA School Concept. When students undergo the peer feedback workshop utilizing Google Docs and Google Sheets, peers need to use their own device (in support of GIGA's Goal 1). More so, a combination of traditional classroom pedagogy including direct instruction and small group or individualized instruction (when needed); contemporary pedagogical approaches such as collaborative learning; and learning with ICT (Chromebook, Google Docs, and Google Sheets) are an integral part of the peer feedback workshop (in support of GIGA's Goal 2).

Prerequisites for implementing this peer feedback workshop among student writers include a stable Internet connection; and any of the following computing devices: a Chromebook (a portable computing device powered by Google applications), a personal computer (a desktop PC or a laptop), or a mobile device such as a smartphone, tablet PC, or phablet (phone-tablet PC). Having a one-to-one student-device ratio of the mentioned affordances in the classroom facilitates the smooth implementation of the workshop proper. This BYOD (Bring Your Own Device) option is anchored on the proven value that students place on freely choosing their own device to achieve desirable results when doing academic tasks (Thomas, 2020). A Google account (G-Account; accounts.google.com), which is easy to create and may be used for free, is another requisite as it is used to log in and access the two Google Workspace for Education (workspace.google.com) applications (a

collection of Google applications designed for teacher/educational use) employed in the workshop.

In the same vein as well-preparing the ICT affordances, pairing students for feedback purposes should be carefully considered. In a couple of studies on the nature of feedback provided by university student peers, Wang (2015) found that a dyad with high proficiency provided feedback on global aspects of their peer's work; whereas a dyad with intermediate proficiency was found to have provided feedback on both global and local aspects of their peer's writing. Conflicting results were generated by Colpitts and Past's (2019) investigation of Japanese university students' Google Docs-mediated peer feedback performance and perception, as student writers with high proficiency demonstrated a strong ability to point out mistakes on one another's papers; while cohorts with low proficiency could only provide each other with general impressions focused on content – providing limited inputs for making revisions.

Having these considerations of well-preparing the ICT affordances and feedback pairings in mind, writing teachers may conduct the trialling of the following peer feedback procedure as featured in the show and tell/workshop presentation in JALTCALL2021 entitled, "Trialling of ICT-mediated feedback types in an EFL process writing class: Students' perspective."

The trialled peer feedback procedure was conducted with the following questions in mind:

1. How effective is the trialled peer feedback procedure?;
2. How appropriate are Google Docs and Google Sheets in mediating the trialled peer feedback procedure?; and
3. Are there any changes in students' perspectives on doing peer feedback after the trialling study?

Method

Context

Grade 11 students at a coeducational private high school in Tokyo underwent the trialled peer feedback procedure in an English as a Foreign Language (EFL) writing class in the fall and winter of the school year 2020–2021. The students were grouped into eight sections. A total of 232 students participated in the study. The writing class was taught entirely in English and ran for forty minutes, once a week. As one of the course objectives is to promote ICT use, the school prescribed (in the school year when the present study was conducted) that all students have a Chromebook to use. However, having a Chromebook was not imposed as a rule. Thus, some students brought to school their own devices (iPad, smartphone, etc) instead. The researcher served as the sole teacher of this writing class.

Framework

The study took the form of action research adapted from Yuce and Atac (2019). It follows the stages of "planning," "action," "observation," and "reflection" as proposed. Wallace (1998) recommends trialling as the best way to determine the effectiveness of proposed teaching materials or approaches. He further posits that if trialling were to be considered as

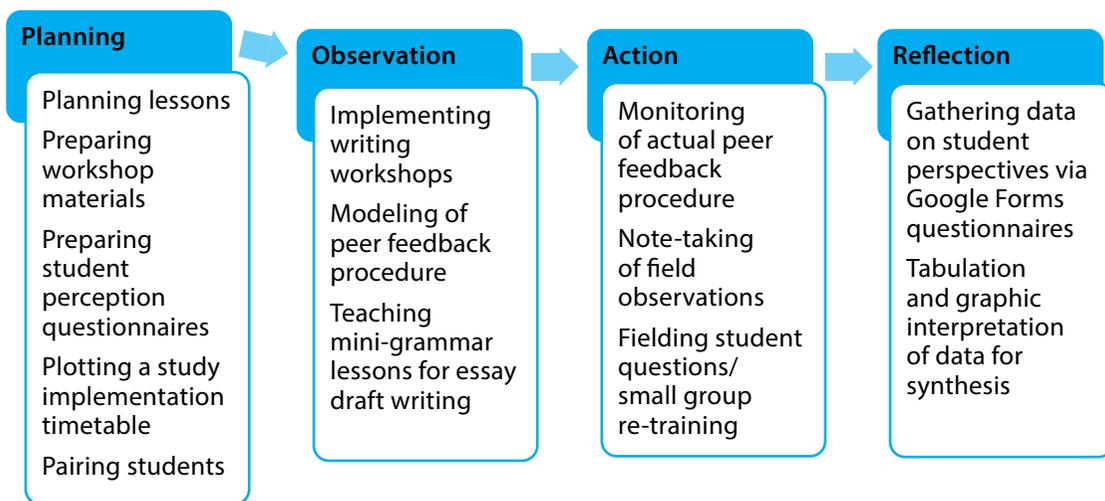
a form of action research, it has to be systematic. Finally, he asserts that when trialling proposed materials or approaches: the process, the product, or both, can be evaluated (Wallace, 1998). Among these three, the process of the trialled approach (ICT-mediated peer feedback) was documented and evaluated in the present study.

Paradigm

The current study's paradigm appears in Figure 1.

Figure 1

Action research paradigm



Planning

The overall goals of the trialling study as well as specific objectives for each lesson were documented. Materials for use in classroom-based writing workshops, such as Google Docs essay writing template and Google Sheets peer feedback checklist; as well as data-gathering instruments, such as Google Forms pre- and post-study questionnaire, peer feedback student perception questionnaire, and teacher field observation notes were likewise developed at this stage. Similarly, student pairings were determined. In the case of the study, proficiency pairing was observed such that students with similar writing proficiencies were assigned to each other. Student Term 1 grades in Writing 2 subject for the school year 2020–2021 were used as reference for student proficiency. Finally, a prescribed working timeline was devised to serve as an implementation guide.

Action

Actual classroom instruction, writing workshops, mini-grammar lessons, and step-by-step modelling of student tasks were conducted at this stage. Prior to such, a clear explanation of the goals of the trialling study was provided to students to make them aware of their participation in the study. Next, posting on Google Classroom (classroom.google.com) of a Google Forms pre-study student perception questionnaire that students

answered was done. All relevant tasks were conducted following the prescribed timeline as much as possible. Any deviations from the planned tasks execution schedule were noted.

Observation

Having conducted classroom instruction and modelling, students were allowed to try each relevant task on their own. With a teacher field observation note-taking form in hand, the teacher roamed around the writing classroom keenly monitoring how students endeavoured on each task. Occasional one-on-one retraining occurred as needed. Students seemingly at a loss on what to do were extended extra support. Close timekeeping was conducted all throughout each class to keep true to the prescribed timeline of the study.

Reflection

After all peer feedback-related tasks had been accomplished, a Google Forms student perception questionnaire on peer feedback was posted on the students' Google Classroom. Respondents' names were not collected to derive anonymous, honest answers. Students answered the questions as a form of reflection activity. They were likewise requested to answer the post-study student perceptions on completing questionnaires, which served as a tool for data comparison against the pre-study perception questionnaire. Data gathered using teacher field observation notes were summarized, documented, synthesized, and interpreted accordingly.

Instruments

Google Forms application was used to construct the data-gathering instruments. Google Forms is a Google application, which allows for the construction of surveys and quizzes and automatically gathers and interprets data in graphic form. The instruments were posted on the students' Google Classroom, a Learning Management System (LMS), which is free for use by teachers using a G-Account (Google account).

Pre-study and post-study writing perceptions student questionnaire

Questions aimed at gathering initial student perceptions on doing peer feedback were posted. The four statements, which were again asked on the post-study student perceptions questionnaire for purposes of comparison, follow:

1. "I like to read my classmates' writing"
2. "I think my classmates should mark my writing assignments"
3. "I would like to get feedback from my classmates about my writing"
4. "I think I can give honest feedback to my classmates about their writing."

Student perceptions questionnaire on the trialled peer feedback procedure

After doing the particular peer feedback procedure trialled in the study, students were asked to react to statements to help gather their perceptions. The two statements are: (1) "Peer feedback helped me improve my essay;" and (2) "Google Docs and Google Sheets were appropriate for giving and using peer feedback." Further, a question on what hardware

they used while undergoing the study was asked of the students to shed light on their gadget preference when in a Bring Your Own Device (BYOD) classroom environment.

Student responses interpretation guide

To each question in the Google Forms perception questionnaire, a 5-point Likert scale with options of “Strongly Agree,” “Agree,” “Neutral,” “Disagree,” and “Strongly Disagree” was made available, as shown in Table 1. Correspondingly, each option has an equivalent qualitative descriptor as to the degree of effectiveness/appropriateness of the constructs in question (i.e. peer feedback, Google Docs and Google Sheets) as appears in the same table.

Table 1
Student responses interpretation guide

Questionnaire descriptor	Interpretation equivalent
Strongly agree (SA)	Highly effective/Highly appropriate
Agree (A)	Moderately effective/ Moderately appropriate
Neutral (N)	Neither effective nor ineffective/ Neither appropriate nor inappropriate
Disagree (D)	Moderately ineffective/ Moderately inappropriate
Strongly disagree (SD)	Highly ineffective/Highly inappropriate

Workshop Proper

Doing peer feedback in an EFL writing class via Google Docs and Sheets

The trialled peer feedback procedure was implemented as follows. If it were to be replicated, it was recommended that throughout the workshop a step-by-step modelling by the teacher in class be conducted. With the aid of a multimedia screen, the actual steps that are to be done by students may be shown in detail.

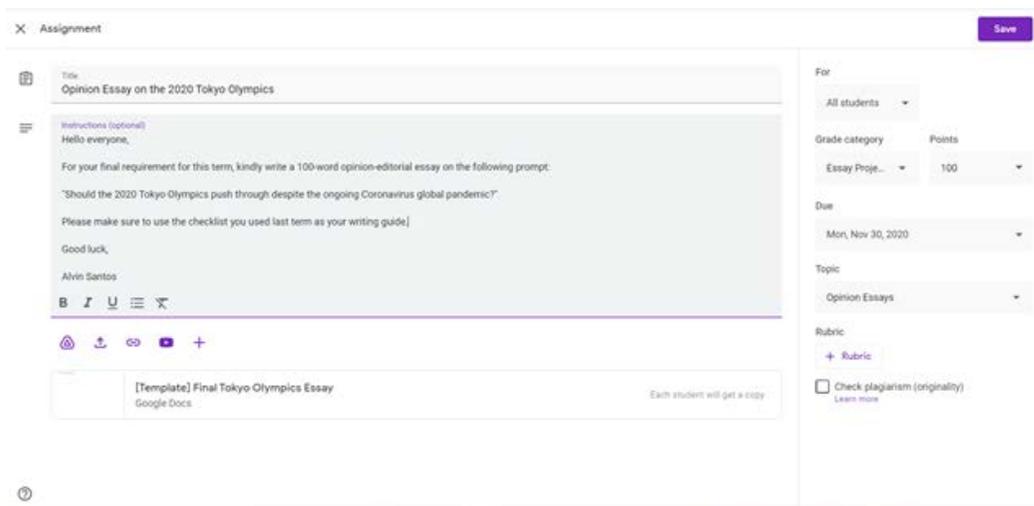
Step 1. Assigning of Google Docs template on Google Classroom

Tech Tools: Chromebook/BYOD, Google Classroom, Google Drive, Google Docs, Internet/WiFi connectivity

1.1 On the Google Drive application (Google data cloud storage application; drive.google.com), a Google Docs template may be prepared by the teacher. A prompt at the top of the document may be written to guide students on the theme/topic of the essay, including some guidelines such as the expected number of words, or other specific conventions on writing. In addition, a rubric may be added to help with the objective evaluation of the student essay.

Figure 2

Assigning of Google Docs template on Google Classroom



1.2 On Google Classroom of the writing class, the teacher may post the template created on Google Docs and saved on Google Drive. It may be posted as an "Assignment" and the option "Make a copy for each student" may be chosen (see Figure 2).

1.3 Once posted, the Google Docs should be available for students to access and work on. A deadline may be set for turning in the essay draft, which will eventually be subjected to peer feedback.

Step 2. Sharing of Google Docs essay with peers

Tech Tools: Chromebook/BYOD, Google Classroom, Google Docs, Gmail, Internet/WiFi Connectivity

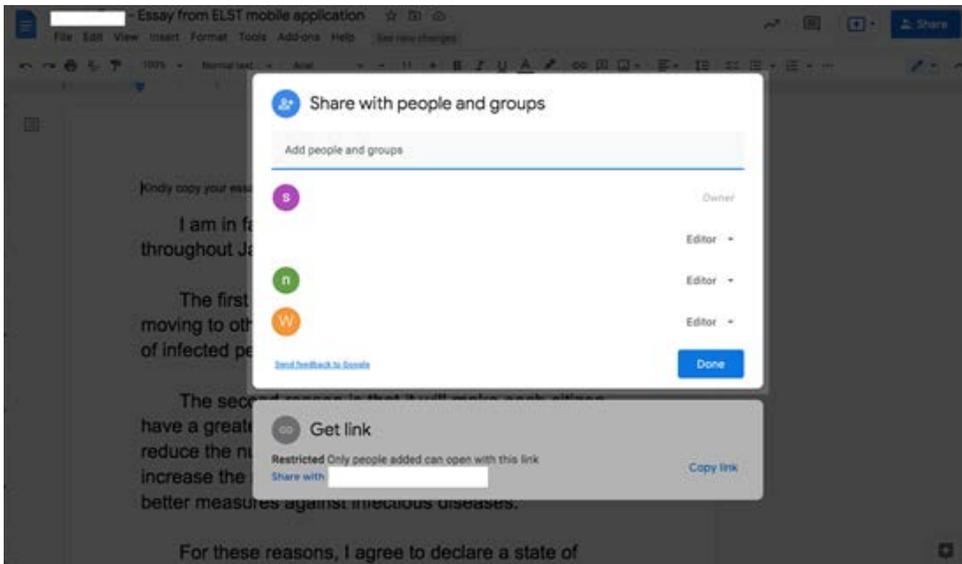
2.1 With the student essays written, peers may be assigned. Peers may be asked to share with each other their essays using the "Share" function of Google Docs (see Figure 3).

2.2 Students may be asked to check their Gmail (Google email application; mail.google.com) accounts as a notification on the sharing of the Google Docs of their peers should be received at such juncture.

2.3 Student peers may do an initial reading of their partner's essay.

Figure 3

Sharing of Google Docs essay with peer

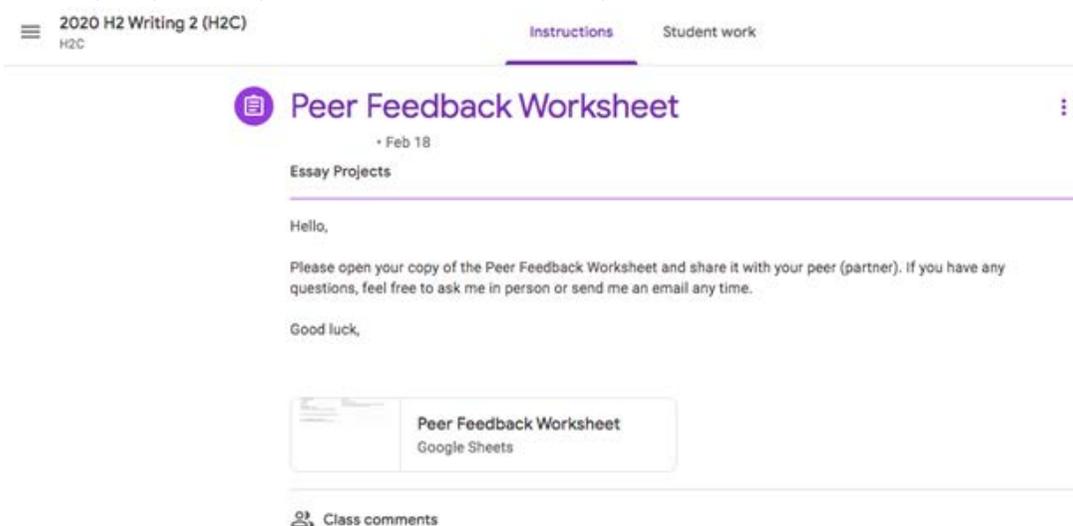


Step 3. Assigning of Google Sheets peer feedback checklist on Google Classroom

Tech Tools: Chromebook/BYOD, Google Classroom, Google Drive, Google Sheets, Internet/WiFi connectivity

Figure 4

Assigning of Google Sheets checklist on Google Classroom



3.1 On Google Drive application, a Google Sheets checklist may be made by the teacher. Training on how to go about the checklist may be conducted by the teacher prior to assigning the template to students.

3.2 On Google Classroom (see Figure 4), the teacher may post the checklist created on Google Sheets saved on Google Drive. The items that are included in the checklist are the items peers will give feedback on after reading their partner’s essay. It may be posted as an “Assignment” and the option “Make a copy for each student” chosen.

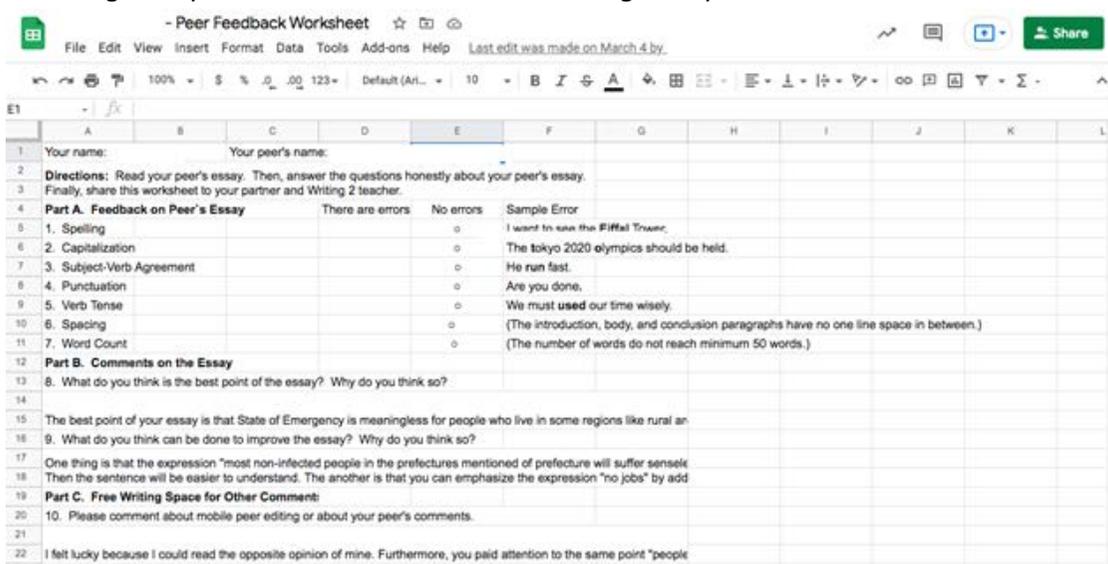
3.3 Once posted, the Google Sheets should be available for students to access and work on. A deadline may be set for filling in the items on the checklist.

Step 4. Filling in of peer feedback checklist and sharing with peer

Tech Tools: Chromebook/BYOD, Google Drive, Google Classroom, Google Docs, Google Sheets, Internet/WiFi connectivity

Figure 5

Filling in of peer feedback checklist and sharing with peer



4.1 The “Shared with me” folder on Google Drive of students should contain the Google Docs of their peers. Students may be instructed to check this folder every time they need access to the document to read their peer’s essay.

4.2 Students may be instructed to read their peer’s essay carefully and fill in the peer feedback worksheet (see Figure 5) with their comments.

4.3 As was done with the Google Docs file, the Google Sheets may be shared with their peer once the checklist has been thoroughly accomplished.

Step 5. Reading of peer feedback on Google Sheets checklist to improve Google Docs essay

Tech Tools: Chromebook/BYOD, Google Drive, Google Classroom, Google Docs, Google Sheets, Internet/WiFi connectivity

- 5.1 Students may be advised to read their peer’s feedback on the Google Sheets checklist.
- 5.2 Students may decide which comments to use as they work on revising their essay.
- 5.3 The final revision may be evaluated and marked by the teacher before returning such to students using the Google Classroom Assignment function.

The enumerated steps may be thoroughly followed or may be adapted depending on the logistics availability in the writing classroom such as hardware devices. In the absence of a computing device such as Chromebook or PC, students may bring their own smartphone, tablet PC, or phablet PC (Bring Your Own Device).

Results

Effectiveness of peer feedback

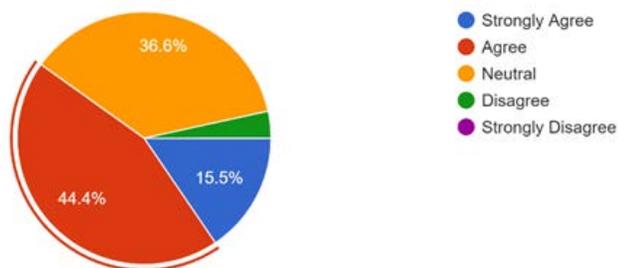
Out of 232 yielded responses to the statement, “Peer feedback helped me improve my essay,” 103 or 44.4% showed “Agree” and 36 or 15.5% reflected “Strongly Agree.” The two indicators combined constituted 59.9% of respondents. Figure 6 illustrates these results.

Figure 6

Student perception on the effectiveness of peer feedback

1. Peer feedback helped me improve my essay.

232 responses



Appropriateness of Google Docs and Google Sheets

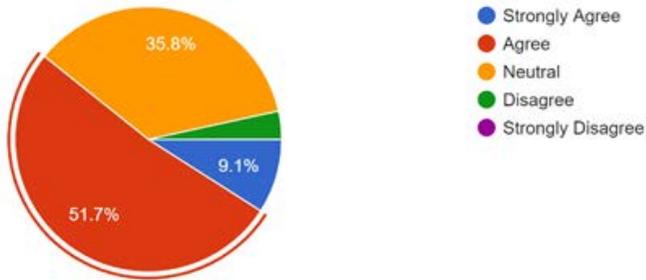
In response to the statement, “Google Docs and Google Sheets were appropriate for giving and using peer feedback,” 51.7% or 120 students selected “Agree.” An additional 21 students or 9.1% selected “Strongly Agree” in response to the same question. Combined, the figure is 60.8% of the total 232 respondents. Figure 7 provides a visual representation of this data.

Figure 7

Student perception on the aptness of Google Docs and Google Sheets for peer feedback

6. Google Docs and Google Sheets were appropriate for giving and using peer feedback.

232 responses



Changes in students' perspectives

Students' perspectives on doing peer feedback differed after the conduct of the trialling study, as reflected in Table 2. In response to the statement, "I like to read my classmates' writing," pre-study responses produced a mean of 3.47 (SD = 1.04). Post-study responses generated a mean of 4.06 (SD = 0.98).

To the statement, "I think my classmates should mark my writing assignments," a mean of 3.22 (SD = 1.19) was generated in the pre-study. The mean in the post-study survey yielded 3.35 (SD = 0.80).

In the pre-study survey questionnaire, an initial mean of 3.36 (SD = 0.9) was recorded in response to the statement, "I would like to get feedback from my classmates about my writing." The post-study survey yielded a mean of 3.92 (SD = 0.71) in response to the same statement.

A mean of 3.4 (SD = 0.87) was noted in the pre-study survey for the statement, "I think I can give honest feedback to my classmates about their writing." The post-study questionnaire tallied a mean of 4.1 (SD = 0.52) as an overall response to the same statement.

Table 2

Pre- and post-study student perceptions on peer feedback

Statements on peer feedback perceptions	Pre-study		Post-study		M difference (Post-study M) minus (Pre-study M)
	M	SD	M	SD	
I like to read my classmates' writing.	3.47	1.04	4.06	0.98	0.59
I think my classmates should mark my writing assignments.	3.22	1.19	3.35	0.80	0.13
I would like to get feedback from my classmates about my writing.	3.36	0.9	3.92	0.71	0.56
I think I can give honest feedback to my classmates about their writing.	3.4	0.87	4.1	0.52	0.7

Notes: Students responded using the following scale 5 = Strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly disagree

Students' comments

On the Google Sheets-mediated peer feedback checklist, the following comments were written by students to aid their assigned peers in revising their essays. All comments were deliberately left unedited to maintain authenticity.

- "Spacing makes his essay better, I suggest doing this to him because it helps reading easier."
- "He should use more words. This essay is too short."
- "I thought it is good because it tells various opinions concretely."
- "His writing is so perfect that I don't think it needs to be fixed."
- "I think line breaks would make the essay better. This is because line breaks in every paragraph make it easier to read."
- "I think the same sentence at the beginning and end could be improved."
- "She is able to accurately state the basis of her opinions."
- "One is that you should leave a space between 'First,' and 'many.'"

Aside from the feedback provided to their assigned peers, students also wrote comments on the trialled peer feedback procedure. The following highlight comments on peer feedback were written by students in response to the last item on the Google Sheets checklist, "For any other comments or questions about peer editing, please write them all in the space below."

- "I would like to take more classes that utilize pair work."
- "I think it is good to do peer feedback because it gives us not only the skill of writing, but also the skills of reading and finding some mistakes reading my peer's essay."
- "I think peer feedback make us expand our thoughts."
- "Peer feedback is good because we can cooperate."

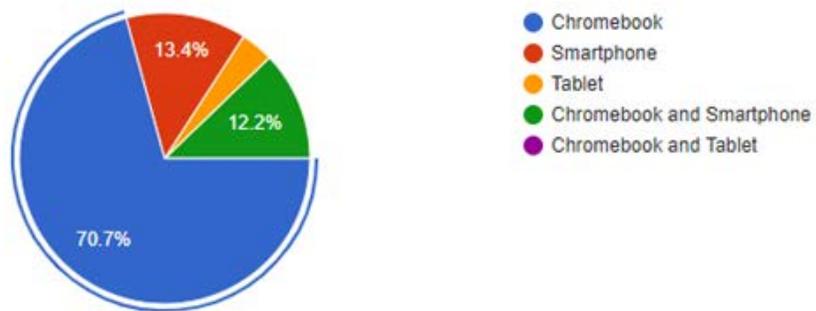
Device utilization

As part of the study, the freedom to “Bring Your Own Device” (BYOD) was allowed among students inside the classroom. To provide details on the use of particular hardware devices during the actual conduct of the peer feedback procedure, the question, “What device did you use for Google Docs and Google Sheets?” was enquired. In response, 70.7% responded that they made use of a Chromebook device; 13.4% utilized a smartphone; 12.2% used a combination of Chromebook and smartphone, and 3.7% brought a tablet PC (i.e. iPad) to class (see Figure 8). At the time of conduct of the study, school-issued Chromebooks were prescribed among students. The sole use of such Chromebooks was not required, thus students had the option of bringing their own device to school instead.

Figure 8

Device utilization of students in a BYOD classroom setting

1. What device did you use for Google Docs and Google Sheets?



Discussion

Data gathered through Google Forms-aided questionnaires provide answers to the research questions as well as related findings of interest. Table 3 reorganizes relevant key figures.

Table 3

Student responses to statements on peer feedback and Google Docs and Sheets

Statements on student perceptions	Post-study figures			
	Strongly agree	Agree	M	SD
Peer feedback helped me improve my essay.	15.5%	44.4%	4.21	0.74
Google Docs and Google Sheets were appropriate for giving and using peer feedback.	9.1%	51.7%	4.13	0.86

Notes: Students responded using the following scale: 5 = Strongly agree, 4 = Agree, 3 = Neutral, 2 = Disagree, 1 = Strongly disagree

First, a 59.9% resulting figure when respondents answered “Strongly agree” and “Agree” to the first question, “How effective is the trialled peer feedback procedure?” indicates that the trialled peer feedback procedure was generally deemed effective (see Figure 6 for reference). To be specific, it was “moderately effective” (see Table 1 for reference) for 44.4% of the respondents. The mean of responses to the statement, “Peer feedback helped me improve my essay” ($M = 4.21$, $SD = 0.74$) indicates that the trialled peer feedback was deemed moderately to highly effective by most respondents, as reflected in Table 3. Similar findings were derived from an attitude survey conducted among freshmen returnee Japanese students (Hosack, 2005). Using pre- and post-anonymous peer feedback attitude survey questionnaires, Hosack discovered that respondents ($n = 13$) exhibited an increased favorable view of peer feedback helpfulness. Such was reflected in their response to the statement, “My classmates’ comments help me when I revise my writing.” (Pre survey $M = 4.08$, $SD = 0.64$; Post survey $M = 4.31$, $SD = 0.63$). Another relevant study was conducted by Farrah (2012) among Palestinian undergraduate writing course students. In the investigation, an attitude survey questionnaire was fashioned to produce descriptive statistics among respondents’ ($n = 78$) attitudes towards a classroom-based peer feedback procedure. A key finding was derived from one of the statements in the survey, “The peer-review process was very helpful.” ($M = 3.72$, $SD = 0.979$). This forms a triangulation of statistical data validating the positive impact of peer review among sophomore Japanese high school students (as in the present study); freshmen Japanese returnee university students (as in Hosack, 2005); and undergraduate Palestinian writing course students (as in Farrah, 2012). More so, it reflects similar tendencies for a small cohort ($n = 13$, Hosack, 2005); medium cohort ($n = 78$, Farrah, 2012); and large cohort ($n = 232$, in the case of the current study) to view peer feedback favorably; whether when student peers were aware of the identity of their partner (as in Farrah, 2012, and in the current study) or when students were anonymously paired (as in Hosack, 2005).

Second, Google Docs and Google Sheets were viewed “moderately appropriate” (see Table 1 for reference) by 51.7% of respondents. Adding the figure of 9.1% who viewed the apps “highly appropriate” brings the total of those viewing the apps positively to 60.8% (see Figure 7 for reference). In response to the statement, “Google Docs and Google Sheets were appropriate for giving and using peer feedback,” a mean of 4.13 ($M = 4.13$; $SD = 0.86$) was derived, as appears in Table 3. The figure is indicative that a majority of respondents deemed Google Docs and Google Sheets as either moderately or highly appropriate for use when conducting peer feedback. This finding validates the usability of Google Docs in serving as a vehicle for writing feedback from other sources, aside from the commonplace teacher feedback. Such is the case reflected in a brief by Balu, et al (2018) on the Drive to Write Program, an initiative to integrate ICT into writing assignments in US public schools. In the program, teachers made use of Google Docs templates to assign their students writing tasks on Google Classroom. Then, teachers commented and gave students feedback using the highlight and comment function offered by Google Docs. As in the current study, Google Docs hosted the writing prompt, served as a writing sheet, and allowed for highlighting of perceived errors and two-way commenting (between assigned peers) via an in-document comment thread function.

However, further exploration is needed to validate the usability of Google Sheets in

serving as a vehicle to host writing peer feedback. In the present study, Google Sheets mainly hosted a real-time checklist for feedback peers to use as a reference for indicating error categories and encoding comments on their peer's work. Future research may dwell on Google Sheets' potentials for use when doing writing feedback in a different setting.

Third, all statements related to the general practice of doing peer feedback yielded significantly positive views from the respondents after the trialing procedure, as reflected in Table 2. Respondents expressed stronger desire to read their classmates' writing after the study (Pre survey $M = 3.47$, $SD = 1.04$; Post survey $M = 4.06$, $SD = 0.98$). Also, students viewed more positively the idea of allowing their classmates to mark their written works following the trialed procedure (Pre survey $M = 3.22$, $SD = 1.19$; Post survey $M = 3.35$, $SD = 0.80$). Likewise, respondents were more open to receiving feedback from their classmates after the study than before the conduct of it (Pre survey $M = 3.36$, $SD = 0.9$; Post survey $M = 3.92$, $SD = 0.71$). Lastly, students became more confident to provide their classmates with honest feedback as reflected in the post-study results (Pre survey $M = 3.4$, $SD = 0.87$; Post survey $M = 4.1$, $SD = 0.52$). These results answer the third research question. Indeed, there were changes in students' perspectives on doing peer feedback after the trialing study. Similar findings were discovered by Hosack (2005) as he explored freshmen Japanese returnee university students' ($n = 13$) attitude towards anonymous peer feedback using pre- and post-study survey questionnaires. Students found it useful to read their classmates' work (Pre survey $M = 4.38$, $SD = 0.51$; Post survey $M = 4.62$, $SD = 0.51$). In addition, peers found it enjoyable to receive their classmates' comments on their writing (Pre survey $M = 3.92$, $SD = 0.56$; Post survey $M = 4.23$, $SD = 0.6$). These statistical descriptions are reflective of Japanese sophomore high school students' as well as freshmen university returnee students' subsequent willingness to allow peers to read their written drafts and read their peers' drafts in return, with the goal of exchanging feedback; whether they are aware of their peers' identity or not.

The sense of honesty in giving their classmates feedback was noted in the nature of peer feedback quality. Most of the comments were directly pointed at specific, local errors. However, there was also a sense of *enryo*, a Japanese term which may be described as an emphatic orientation and hesitation of self-expression; which can be seen to protect [the audience's] negative face (Tao, 2014). Providing a "tempered" nature of feedback to peers may be observed in other cultures as well. In Botswana, for instance, the cultural notion of *botho* which translates to "compassion and caring," (Kasule & Lunga, 2010, p. 68) may be noted. Similarly, the Thai notion of *Kreng Jai* or the concern for other people's feelings (Wanchid, 2015) exists.

As for the scope of peers' feedback, peers with high writing proficiency provided more mechanics-based, technical remarks such as on text organization, grammar, and the like. On the other hand, peers with low to mid writing proficiency provided general, global comments ranging from positive remarks on the assigned peer's ideas, plurality of reasons provided, variety and number of vocabulary words used, among others. Such findings validate Colpitts and Past's 2019 study while debunking the results emanating from that of Wang's 2015 investigation.

In a BYOD setting, the school-issued Chromebook device was a top preference among students (see Figure 8 for reference). This may be attributed to the fact that at the time of

conduct of the present study, Chromebook use was prescribed and issued by the school, as opposed to requiring each student to have their own. The second most widely used device was smartphone. This validates the tendency of students to turn to a notebook PC and smartphone when in a BYOD setting (Thomas, 2020). Interestingly, the third most utilized was a combination of Chromebook and smartphone. This may hint on the promising future of an eclectic BYOD learning environment. Finally, a tablet PC (i.e. iPad) was used by the least number of students when doing the peer feedback procedure.

Conclusion

The trialled peer feedback procedure in a high school EFL writing class explored how utilizing Google Workspace for Education applications namely Google Docs and Google Sheets and conducted in a Bring Your Own Device (BYOD) environment has shaped students' perspectives on allowing an assigned peer to critique their written drafts and to provide critique in return.

An action research method was adapted to facilitate the reflective implementation of the classroom-based workshop. Pre- and post-workshop student survey questionnaires served as data gathering tools together with teacher field observation notes. Descriptive statistics were tabulated to aid in the scholarly interpretation of collected information.

The trialled peer feedback procedure was found to be moderately effective. Using Google Docs and Google Sheets as a medium for the peer feedback procedure was deemed moderately appropriate. After undergoing the trialled peer feedback workshop, respondents were: more inclined towards reading their classmates' writing; more open to having their classmates read their own written works; more willing to receive comments from their classmates regarding their written drafts, and had more confidence in themselves that they could provide their classmates honest feedback on their essays.

The positive perception of peer writers towards providing and receiving feedback was triangulated: in the case of a large cohort of Japanese high school EFL students; a medium cohort of Palestinian undergraduate writing course students; and a small cohort of Japanese freshmen university students who were partnered anonymously for feedback exchange.

Google Docs was proven moderately appropriate for use when doing peer feedback in a high school EFL setting. This adds to the usability of Google Docs as it was also tapped to host teacher feedback to students' written assignments in US schools through the Drive to Write initiative. Another Google Workspace for Education application used in the current study, Google Sheets, is open to a lot of possibilities for writing feedback usability in future scholarly inquiry.

Both large and small cohorts of Japanese writing feedback peers regarded more positively exchanging written works with their classmates whether they were made aware of the reader's identity or not, for the purpose of providing and receiving feedback, after undergoing a peer feedback procedure.

Japanese, Thai, and Tsawana writing feedback peers tend to moderate their comments on their partner's written works as an apparent sign of their respective societies' cultural

notions transcending influence to education. Such is evident as peers show temperance when providing critique in an effort to avoid embarrassing the writing partner.

Peers with high writing proficiency provided more technical, detailed corrections aimed towards local errors on their partner's works; whereas peers with low to mid writing proficiency supplied more general, impressionistic comments to their feedback partners.

When in a BYOD high school EFL writing classroom, student writers were inclined to use Chromebook most often. The next most frequently used device was the smartphone. Using a Chromebook and smartphone in combination was the third most frequently utilized. Using a tablet PC such as an iPad was the least frequent choice.

Limitations of the study include using solely opinion-editorial (op-ed) text types as materials for students to write and provide peer feedback on. Future researchers may consider investigating whether other text types such as narrative, descriptive and other expository text types could be used to provide peer feedback on and whether such would yield similar results.

An offshoot of a peer feedback procedure that may be considered for separate and further inquiry may be the nature and form of sentences and phrases used by peers when pointing out errors, offering corrections, agreeing or disagreeing on certain points, and other statements.

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9

Hedging in academic writing: Cross-disciplinary comparisons in the Michigan Corpus of Upper- Level Student Papers (MICUSP)

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Abstract

Hedging has been a long-standing challenge for English learners. Emerging from the research on hedging in academic writing is the natural/social science dichotomy that hedging is more common in social sciences than in natural sciences. Yet, this line of research has been primarily based on a limited number of disciplines. To bridge this gap, this study compares sixteen disciplines to uncover the cross-disciplinary variation in hedging based on successful student writing captured by the Michigan Corpus of Upper-level Student Papers (MICUSP). Five types of hedging devices were investigated. The results suggest that hedging is more common in argumentation-driven disciplines than in the data-driven ones. Cross-disciplinary differences were also found between disciplines under the same division. The findings challenge assumptions and raise questions about the natural/social science dichotomy in academic writing, calling for discipline-specific instruction on hedging in teaching English for academic purposes. The study also demonstrates the affordances of corpus tools for data-driven teaching and computer-assisted language learning in remote learning during the COVID-19 pandemic.

ヘッジング(断定表現)は英語学習者にとって長年の課題であった。アカデミックライティングにおけるヘッジングの研究からわかってきたのは、ヘッジングは自然科学よりも社会科学でより一般的であることである。しかし、このような研究は、主に限られた学問分野を対象として行われてきた。このギャップを埋めるために、本研究では16の分野を比較し、Michigan Corpus of Upper-level Student Papers (MICUSP)に収録されている学生の文章をもとに、ヘッジングの分野を超えたバリエーションを明らかにする。5種類のヘッジデバイスが調査された。その結果、議論主体の分野では、データ主体の分野よりもヘッジングがより一般的であることが示唆された。また、同じ部門に属する学問の間でも、分野横断的な違いが見られた。この結果は、アカデミックライティングにおける自然科学と社会科学の二分法を覆し、アカデミックな目的の英語教育において、ヘッジングに関する分野別の指導が必要であること

を訴えている。また、COVID-19パンデミック時の遠隔学習におけるデータを元にした教育法やコンピュータ支援型言語学習におけるコーパスツールの余裕を示すものである。

Keywords: hedging; English academic writing; corpus-based research; interdisciplinary comparison

Introduction

Hedging, the process whereby the writer reduces the strength of a statement, is a salient feature of academic writing. Although writing is by nature a product that inevitably embodies the author's viewpoint (Stubbs, 1986), authors of academic papers often need to present their claims cautiously to gain acceptance for their statements, since academic writing – which was traditionally viewed as an impersonal and objective endeavor of presenting absolute truths – has now come to be seen as a persuasive discourse where the writer interacts with the audience (Hyland, 1998a, 2005). By allowing authors to enter a dialogue with their readers, hedging is a key resource of this academic interaction (Hyland, 2004). It can be achieved by using lexical devices (e.g., modal verb *might*) or implicitly by, for example, using passive voice for impersonal construction or referring to experimental or theoretical limitations (Hyland, 1998b).

Hedging has been associated with vagueness, mitigation and politeness. Academic writers employ hedging techniques to maintain objectivity (Swales & Feak, 1994), express uncertainty (Skelton, 1997), and avoid commitment to categorical assertions (Hyland, 1998b). Hedging carries not only the author's degree of confidence in the face of a statement but also the author's attitude towards the audience (Hyland, 1998a). As a politeness strategy (Myers, 1989; Cabanes, 2007), hedging is used to convey respect for alternative views and to tone down the statements to allow room for readers to have their own interpretations (Jalilifar & Shooshtari, 2011). The functions of hedging boil down to this: it allows writers to cautiously present evidence and claims and interact with a wider academic community.

The past two decades have witnessed a growing body of research on cross-disciplinary comparisons on hedging in written academic discourse. The social science/natural science dichotomy is reified in this line of research where an emergent theme is that hedging is more common in social science disciplines than in natural science disciplines. Ignacio and Diana (2008), for example, compared the use of hedging in research articles in the fields of marketing, biology and mechanical engineering. They found that hedging was most common in marketing and attributed the finding to the nature of data used in each discipline. Marketing used hedging more frequently because the data used in marketing research is more socially constructed and abstract as opposed to the concrete, numerical data used in biology and mechanical engineering research. Tabrizi (2011) examined the hedging frequency in journal articles in biology and English language teaching (ELT) and found that hedging was more common in ELT journal articles than in biology texts. Similarly, Mirzapour and Mahand (2012) reported that hedging was more commonly used in the field of library and information than in computer science. The findings were corroborated

also by Rabab'ah's (2013) study that compared the distribution and function of hedging devices in nursing and education articles. The results suggest that education authors resorted to a wide range of hedging devices more frequently than the nursing writers. Emerging from this line of research is the natural science/social science dichotomy and that hedging is less salient in the former than in the latter.

However, and notwithstanding the above findings, the small number of disciplines involved in the referenced studies warrants caution in the interpretation of the results. This points to the need to compare a wider range of disciplines to examine whether the natural science-social science dichotomy of hedging is a general rule or popular misconception. As an attempt to bridge this research lacuna, this study compares the use of hedging across sixteen disciplines in the Michigan Corpus of Upper-Level Student Papers (MICUSP). It aims to investigate the cross-disciplinary variations of the form, frequency and function of hedging devices in successful academic writing by advanced student writers. It also attempts to demonstrate how corpus methods can contribute to the understanding of academic writing and hopefully provide fruitful insights into teaching English for academic purposes (EAP). The study answers two questions:

1. How frequently do advanced student writers use hedging across the 16 disciplines? Are there any interdisciplinary differences?
2. What are the most frequently used hedging devices in the 16 disciplines? Are there any interdisciplinary differences?

Methods

The Michigan Corpus of Upper-Level Student Papers (MICUSP)

This study is a corpus-based analysis. As corpus data allows close textual interpretation of concordance lines and large-scale statistical processing, both quantitative and qualitative data can be obtained to address the two research questions. Corpus evidence has been argued to have a unique contribution to "raising teacher's sensitivity to linguistics features and patterns" (Tsui, 2004, p. 39).

The data used in this study comes from the *Michigan Corpus of Upper-level Student Papers* (see <http://micusp.elicorpora.info>). MICUSP provides access to 829 papers (totaling approximately 2.6 million words) written by A-graded senior undergraduate and first to third year graduate students at a large American research university (Römer & O'Donnell, 2011). Papers of seven different types (argumentative essay, creative writing, critique/evaluation, proposal, report, research paper, response paper) were collected from 16 disciplines across four academic divisions (see Table 1).

Considering the comparative nature of this study, raw hedge frequency needs to be normalized to make meaningful comparisons. The following formula was used to calculate the normalized frequency:

$$f_{norm} = \frac{h}{t} \times 10000$$

where h is the total number of hedge instances and t is the total number of tokens (e.g., the size of the corpus). Table 1 shows the total number of tokens in each sub-corpus.

Table 1

Distribution of papers across academic divisions and disciplines in MICUSP

Academic division	Discipline	Papers	Tokens
Humanities & arts	English (ENG)	98	268,733
	History & classical studies (HIS)	40	182,629
	Linguistics (LIN)	41	155,047
	Philosophy (PHI)	44	128,028
		$\Sigma 223$	$\Sigma 734,437$
Social sciences	Economics (ECO)	25	78,070
	Education (EDU)	46	150,282
	Political science (POL)	62	210,783
	Psychology (PSY)	104	323,326
	Sociology (SOC)	72	215,793
		$\Sigma 309$	$\Sigma 978,254$
Biological & health sciences	Biology (BIO)	67	176,124
	Natural resources & environment (NRE)	62	176,653
	Nursing (NUR)	42	158,773
		$\Sigma 171$	$\Sigma 511,550$
Physical sciences	Civil & environmental engineering (CEE)	31	98,918
	Industrial & operations (IOE)	42	124,973
	Mechanical engineering (MEC)	32	123,335
	Physics (PHY)	21	45,062
		$\Sigma 126$	$\Sigma 392,288$
Overall summary		$\Sigma 829$	$\Sigma 2,616,529$

Inclusion criteria

Hedging can be achieved by using lexical devices or implicitly by using passive voice or impersonal expressions (Hyland, 1998b). This study only focuses on some of the most prototypical lexical hedges. A list of lexical items (see Table 2) was compiled based on previous research (Hyland, 1998a, 1998b, 2004; Jalilifar, 2007).

Table 2

Taxonomy of hedges based on Hyland (1998a, 1998b, 2004) and Jalilifar (2007)

Category	Hedges
Modal auxiliaries	can, could, may, might, would
Lexical verbs (including inflections)	appear, assume, imply, infer, indicate, predict, seem, suggest, suppose, tend to
Epistemic adjectives	approximate, conceivable, likely, possible, probable, seeming, speculative, uncertain, unclear, unlikely
Epistemic adverbs	about, almost, approximately, at least, broadly, conceivably, generally, maybe, nearly, perhaps, plausibly, probably, relatively, roughly, seemingly, somewhat, supposedly, virtually
Adverbs of frequency	frequently, mostly, often, sometimes, usually

The author searched for all occurrences of hedges listed in Table 2 by putting each of the hedges in the search box located on the top of the MICUSP interface. Hedge instances were manually checked in context to ensure that they were performing hedging functions. All occurrences went through two rounds of counting by the same author with a one-month interval. Both rounds of counting were done manually as there is no automatic extraction function in MICUSP. The two sets of counting results were compared and the agreement rate was 100%. Occurrences that matched the definition and performed hedging function were counted and those that did not were excluded. For example, the underlined occurrences *appear* and *can* in Excerpt 1.1 and 1.3 were counted, for they were performing hedging function – withholding commitment and expressing possibility, respectively; while the ones in Excerpt 1.2 and 1.4 were excluded from the count as they referred to the object starting to be seen and an ability, respectively.

Excerpt 1.1

Analysis of the data reveals that the adoptees, with few exceptions, appear to be doing well.

[Psychology report; Paper ID: PSY.Go.41.1]

Excerpt 1.2

Then, noting that the magnetic field does not appear in the y-component of the canonical momentum, ... [Physics report; Paper ID: PHY.G3.03.1]

Excerpt 1.3

Bed nets are another form of vector control while people sleep, but they can be less effective when mosquitoes can bite through. [Biology report; Paper ID: BIO.Go.25.1]

Excerpt 1.4

It may be because they do not know what tasks the techs can do. [Nursing report; Paper ID: NUR.Go.07.1]

Inflections of the hedging verbs were counted through lemmatization, the process of “grouping word forms from the same word class under the base or uninflected form” (Flowerdew, 2012, p.12). For instance, occurrences of *suggests* and *suggested* were subsumed under the count of *suggest*.

Results and Discussion

Hedging frequency across the 16 disciplines & interdisciplinary differences

A total of 33,261 functioning hedges were found in the 2,616,529 words corpus – an average of 40.27 per paper, or 127.12 hedges per 10,000 words, close to what Hyland (1998a) reported 14.6 hedges per 1,000 words in his analysis of 56 research papers. Although Hyland’s (1998a) study included eight disciplines while the present study involves sixteen, the overall consistency of the hedging frequency underlines the importance of hedging in academic writing.

Figure 1

Total hedges per 10,000 words: Disciplinary differences

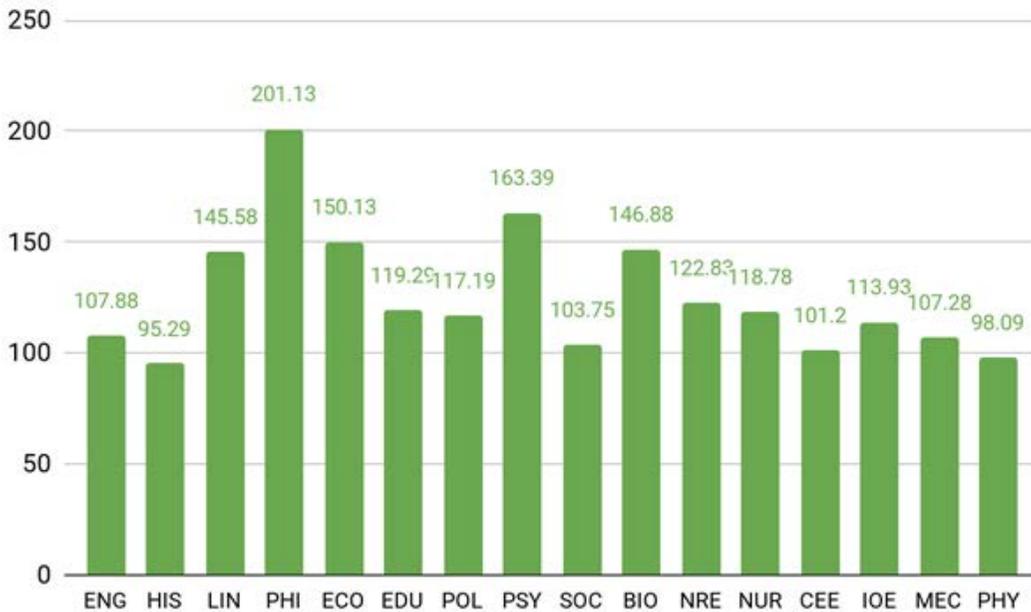


Figure 2

Modal-auxiliary hedges per 10,000 words: Disciplinary differences

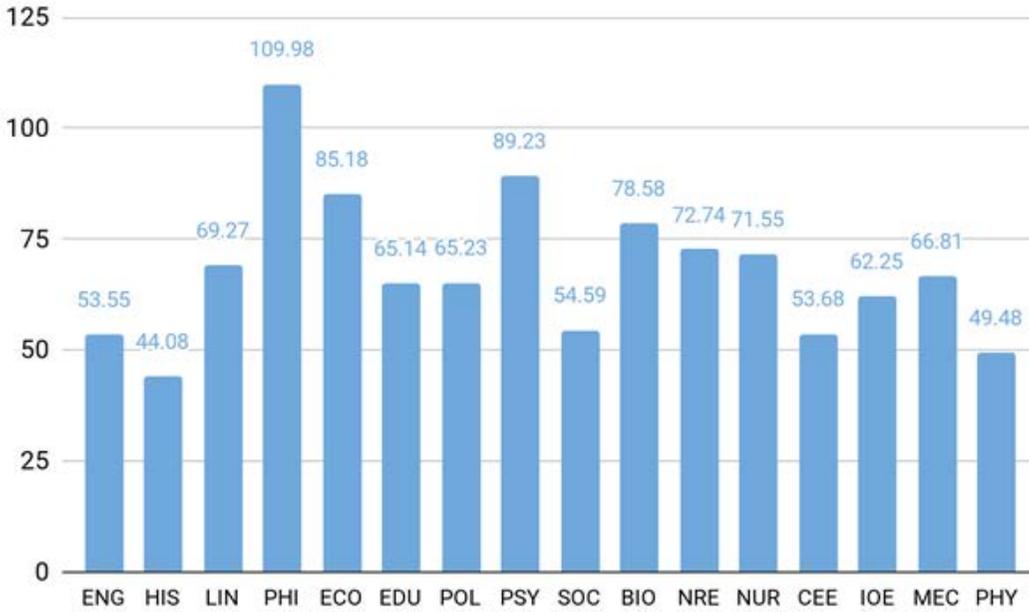


Figure 3

Lexical-verb hedges per 10,000 words: Disciplinary differences

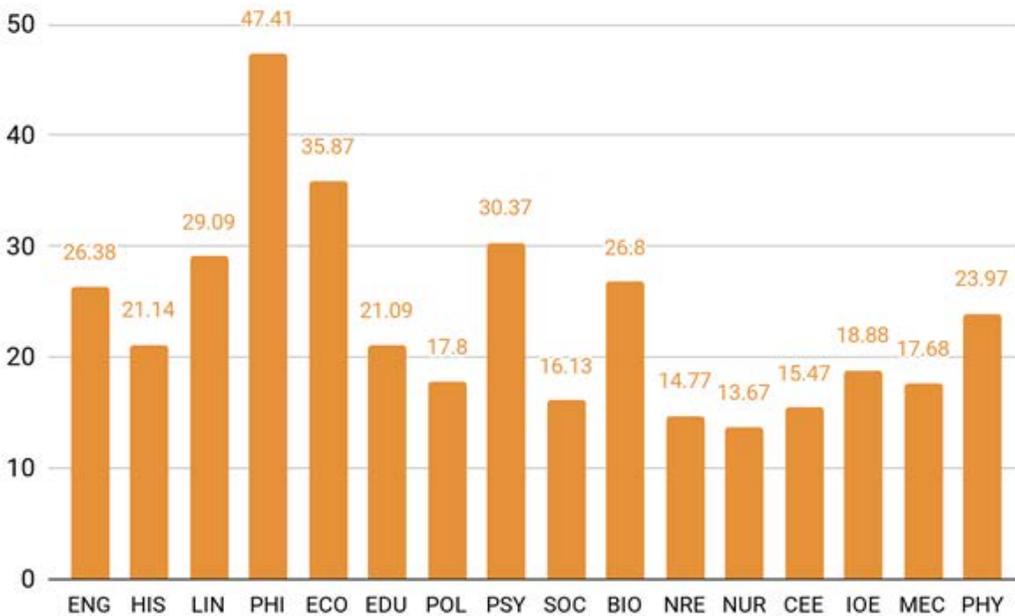


Figure 4

Epistemic-adjective hedges per 10,000 words: Disciplinary differences

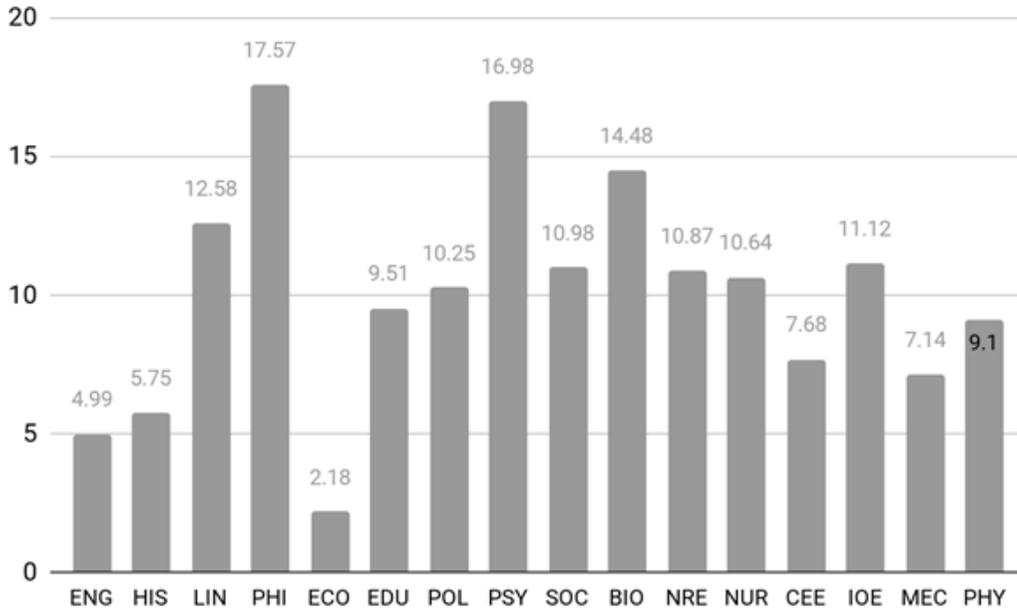


Figure 5

Epistemic-adverb hedges per 10,000 words: Disciplinary differences

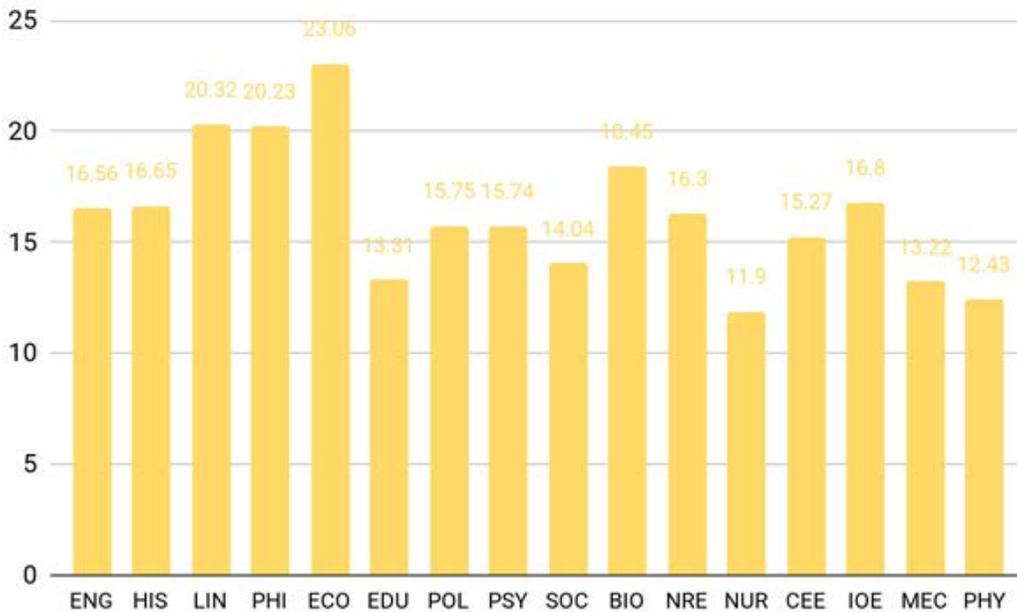


Figure 6

Adverb-of-frequency hedges per 10,000 words: Disciplinary differences

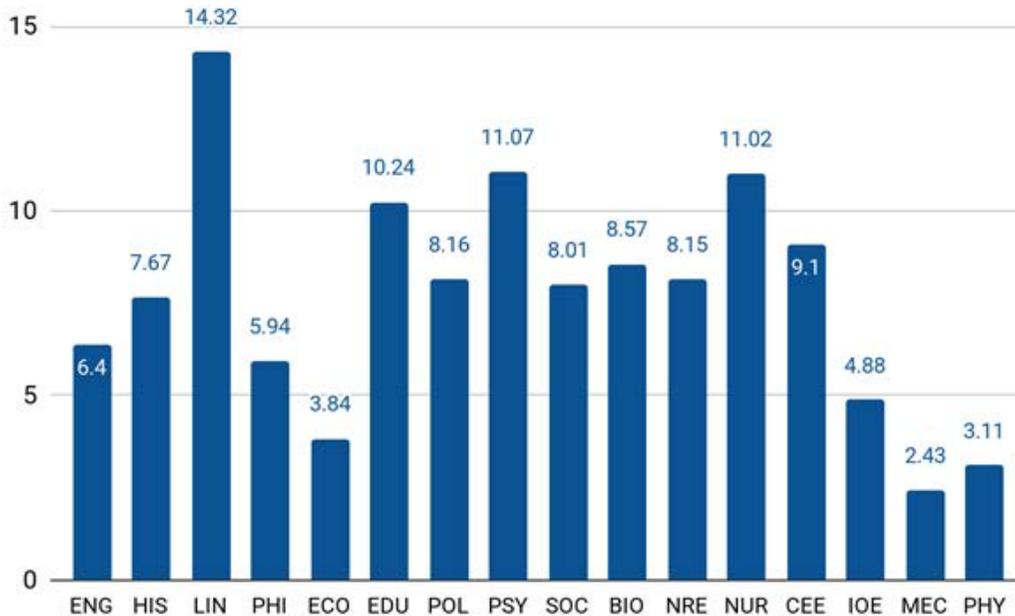


Figure 1 shows that the highest hedge frequencies were found in Philosophy (201.13 occurrences per 10,000 words) and Psychology (163.39) and the lowest in Physics (98.09) and History and classical studies (95.29). The results generally support Ignacio and Diana's (2008) conclusion that hedging is more common in disciplines driven by abstract, socially-constructed data and less common in those driven by concrete data. However, a demonstrable exception to this rule is the discipline of History and classical studies. Papers in this discipline used hedging the least frequently, while they are primarily based on so-called abstract, socially constructed data, as can be seen from the excerpts below, where the discussions are based primarily on the author's opinions on topics open to interpretation. The hedging modal auxiliaries *may* and *could* were used here as an interactive and politeness device to convey respect for alternative opinions and allow room for readers to make their own judgements, echoing the functions of hedging discussed previously. The low hedging frequency found in History and classical studies may be attributed to the fact that 50 percent of the papers in this discipline are report papers, which are mainly citing and analyzing of *faits accomplis* or classical works, allowing little room for hypotheses and argumentation.

Excerpt 2.1

The poet, whenever he may have written, could have also recognized the stability of the Augustan age or not wish to have to treat civil-war at length. [History & classical studies argumentative essay; Paper ID: CLS.G2.01.1]

Excerpt 2.2

However, it may be argued that such issues are minimally connected to the fundamental question of what Cicero's rhetorical or private aim is in these extensive compositions. [History & classical studies report; Paper ID: CLS.G1.02.1]

Excerpt 2.3

This stance may seem slightly contradictory to the aims of tolerance, but other advocates of tolerance (such as Karl Popper) agree with Scanlon, and so it may be reasonable to accept it for now. [Philosophy; Argumentative essay; Paper ID: PHI.Go.05.1]

Excerpt 2.4

Note that the manifestations of particular PQ's may change. The grain may have been split in two; it may have fallen on the floor, or been set into motion at some point. [Philosophy; critique/evaluation; Paper ID: PHI.Go.02.2]

Excerpt 2.5

We should try to find the candidate somatic cells that may be the reason for migration defect according to the pattern and the region of these two disorder groups of PGC's movement. [Biology; proposal; Paper ID: BIO.G1.07.1]

Figure 1 also reveals substantial intra-division disciplinary variations. Noteworthy is that Philosophy and History and classical studies, one with the highest hedge frequency and the other the lowest, are under the same division of Humanities and arts. Although the two disciplines are within the same division, they are different in nature, which may factor in the contrast in the hedging frequency. History and classical studies focuses on the study of languages, culture and civilizations. The most common techniques in this discipline are extracting information from texts or materials and analyzing the arguments, as in Excerpt 2.1 and 2.2. Philosophy, on the other hand, is the study of fundamental questions about existence and reason. The most common philosophical methods are discussion, argumentation and questioning (Excerpt 2.3 and 2.4), which likely make more room for the role of hedging compared with History and classical studies methods.

Intra-division variations were also found in the division of Biological and health sciences, where hedging is markedly more common in Biology (146.88 per 10,000 words) than in other disciplines within the same division, i.e., Natural resources & environment (122.83) and Nursing (118.78). The results may be explained by the different nature of the disciplines as well. Biology as a discipline is mainly connected to the organization and diversity of life. It is difficult, if possible, to ascertain the processes by which life has achieved its present forms or the mechanisms behind certain species' activity patterns (e.g., Excerpt, 2.5), as there is much room for probabilities. Thus, Biology students might be more prompted to "tone down, mitigate or modulate the statements so that the audience feel that they are still able to judge for themselves and that the author is pending their acceptance" (Cabanés, 2007, p. 141). In contrast, Natural resources and environment is related to the knowledge of policies, techniques and skills to manage and conserve resources for protection of the Earth's resources. Writers in this discipline tend to make their claims with more certainty

to express the exigency of the situation and the call for sustainability. Similarly, Nursing as a discipline is to develop skilled nurses as problem solvers to address complex health care issues. Authors of Nursing articles need to state their positions with much more confidence, since the lack of certainty would be associated with potential health risks. This view echoes that of Rabab'ah (2013) who found that hedging is used more frequently in education academic articles than in the nursing ones.

Social sciences disciplines also witnessed intra-division variations. Psychology papers have a notably higher frequency than Economics, Education, Political science, and Sociology papers in total hedging use (163.39), as well as in the use of modal verbs (89.23; see Figure 2) and lexical verbs (30.37; see Figure 3). The overlaps between these social sciences disciplines are evident – a focus on patterns of recurring behavior characteristics. Psychology, however, differs from the other disciplines in that delve into the mind of individuals or small groups to understand human behaviors and emotional reactions, while the other social science disciplines tend to look beyond individuals. Thus, the high hedging frequency in Psychology papers may be due to the discipline's heavy reliance on perceptions or personal judgements (Nivales, 2011).

To sum up, there was considerable spread in hedging frequency across disciplines. The results also suggest that hedging frequency varies not only across different divisions but also within the same division. While previous research suggests that hedging is less common in natural sciences than in social sciences, caution is warranted in applying this dichotomy since there are exceptions such as History and classical studies and Biology.

Most frequent hedges & interdisciplinary differences

The ten most common hedging devices in the whole corpus, with the normalized frequency in the whole corpus and sub-corpora, are shown in Table 3. The ten items accounted for no less than 74 percent of all hedging devices (127.12 per 10,000 words) in the whole corpus and no less than 62 percent in each discipline, suggesting that these ten items are heavily used to express hedging across all disciplines. Among the ten items, *can*, *may*, *could*, *seem*, *might*, *suggest* were also listed among the ten most frequent hedging devices in Choi & Ko's (2005) analysis of writing by native writers of English (NWS) and Korean non-native writers (NNWs). *May*, *could*, *would* were the highest frequency items in Hyland and Tse's (2004) analysis of 40 master's or doctoral dissertations from six disciplines. The five modal verbs, namely *would*, *can*, *may*, *could*, and *might*, accounted for no less than 46 percent of all hedges in each discipline, which supports that modality is an important means to express hedging (Holmes, 1988; Hyland, 2003; Hyland & Tse, 2004). Cross-disciplinary variations exist in terms of both the frequency and function of the ten items. Three most distinct cross-disciplinary differences are closely examined below.

Table 3

Ten most common hedges in MICUSP

	would	can	may	could	seem	might	possible	suggest	likely	often
Total	21.49/16.9	16.28/12.8	14.29/11.2	11.14/8.8	6.75/5.3	5.13/4.0	5.00/3.9	4.78/3.8	4.75/3.7	4.66/3.7
BIO	23.56/16.0	18.45/12.6	19.93/13.6	13.17/9.0	3.58/2.4	3.46/2.4	7.15/4.9	8.86/6.0	5.17/3.5	4.32/2.9
CEE	13.45/13.3	16.28/16.1	12.13/12.0	9.40/9.3	1.21/1.2	2.43/2.4	3.94/3.9	2.12/2.1	2.22/2.2	5.26/5.2
ECO	19.47/13.0	13.32/8.9	15.63/10.4	10.89/7.3	6.15/4.1	11.53/7.7	5.25/3.5	4.36/2.9	14.47/9.6	1.92/1.3
EDU	23.82/12.0	12.71/10.7	13.11/11.0	11.05/9.3	6.39/5.4	4.46/3.7	3.06/2.6	4.66/3.9	5.79/4.9	5.72/4.8
ENG	14.92/13.8	15.29/14.2	9.45/8.8	9.19/8.5	12.09/11.2	4.69/4.4	2.31/2.1	6.29/5.8	1.56/1.4	3.76/3.5
HIS	16.32/17.1	6.73/7.1	6.95/7.3	9.42/9.9	7.67/8.1	4.65/4.9	2.96/3.1	5.31/5.6	1.37/1.4	4.49/4.7
IOE	22.80/20.0	14.24/12.5	8.08/7.1	11.92/10.5	3.12/2.7	5.20/4.6	7.76/6.8	4.48/3.9	2.48/2.2	2.40/2.1
LIN	21.86/15.0	18.32/12.6	16.32/11.2	9.22/6.3	9.93/6.8	4.84/3.3	7.48/5.1	3.22/2.2	2.97/2.0	6.32/4.3
MEC	29.84/27.8	16.38/15.3	7.38/6.9	12.00/11.2	0.97/0.9	1.22/1.1	5.19/4.8	1.78/1.7	0.89/0.8	1.22/1.1
NRE	24.28/19.8	16.59/13.5	13.08/10.6	16.47/13.4	3.79/3.1	2.32/1.9	4.02/3.3	2.09/1.7	5.43/4.4	4.92/4.0
NUR	19.65/16.5	17.13/14.4	21.60/18.2	9.76/8.2	2.59/2.2	3.40/2.9	3.78/3.2	3.46/2.9	6.17/5.2	6.11/5.1
PHI	28.90/14.4	36.09/17.9	15.78/7.8	13.90/6.9	24.76/12.3	15.31/7.6	13.67/6.9	5.31/2.6	1.48/0.7	3.04/1.5
PHY	11.32/11.5	22.19/22.6	7.32/7.5	7.32/7.5	1.11/1.1	1.33/1.4	5.55/5.7	2.66/2.7	2.00/2.0	1.78/1.8
POL	24.34/20.8	12.62/10.8	10.86/9.3	11.77/10.0	5.31/4.5	5.65/4.8	3.32/2.8	5.17/4.4	5.08/4.3	5.60/4.8
PSY	25.79/15.8	18.46/11.3	27.31/16.7	10.95/6.7	6.87/4.2	6.71/4.1	5.72/3.5	7.73/4.7	9.53/5.8	6.34/3.9
SOC	16.91/16.3	13.44/13.0	9.41/9.1	10.19/9.8	4.54/4.4	4.63/4.5	3.61/3.5	2.13/2.1	6.35/6.1	5.10/4.9

Notes: In each cell, the number on the left indicates the percentage of occurrences of the hedge per 10,000 words in the whole corpus (the first row) or in each sub-corpus by discipline; the number in the right indicates the percentage of all hedges in the whole corpus or in each sub-corpus that are comprised of the specific hedge indicated.

Cross-disciplinary variations: Seem

Of all the functioning hedging devices, *seem* was rarely used in Mechanical engineering (0.9% of all hedges in this discipline) and Physics (1.1%) essays but were significantly more common in English (11.2%) and Philosophy (12.3%) essays. This may have to do with the meaning and connotation of the word *seem*, whose definition revolves around the concept of impression. Impression is highly subjective as it has to do with people’s feelings and opinions, which are not as relevant to the fields of Mechanical engineering and Physics as to the study of English and Philosophy. Upon closer examination of these hedges in context, it was observed that the two hedges were performing different hedging functions in these disciplines. Four examples are presented below.

Excerpt 3.1

Second, the contact resistance of the setup did not seem to be consistent. [Mechanical engineering; research paper; Paper ID: MEC.Go.04.1]

Excerpt 3.2

Conflicts seem to occur most often when one religion does not allow the presence of its neighbor religion and so seeks to alter their presence or activities, even the religion itself. [Philosophy; argumentative essay; Paper ID: PHI.Go.05.1]

Excerpt 3.3

Empirical observations suggest that during the summer months, when dissimilar schedules meant less knowledge of others' decisions and thus less peer pressure. [Civil & environmental engineering; argumentative essay; Paper ID: CEE.G3.04.3]

Excerpt 3.4

Just as space can imply the idiosyncrasies of a generation, it can also suggest impressions of individual issues and emotions. [English; argumentative essay; Paper ID: ENG.Go.09.2]

Although *seem* and *suggest* function as hedges in the Mechanical engineering (Excerpt 3.1) and Civil and environmental engineering (Excerpt 3.3) papers, they carry a relatively high level of confidence of the authors in the face of the statements that are based on concrete, objective evidence (i.e., *the contact resistance* and *empirical observations*). The authors used these hedges to present the evidence with caution, maintain objectivity and convey epistemic meaning, less so to express uncertainty. In contrast, in Excerpt 3.2 and 3.4, the authors used *seem* and *suggest* to make statements based on their own experience and interpretation. The claims being made are not definite ones, as there is no standard answer to the open-ended questions that when conflicts occur most often and what space can imply. By using *seem* and *suggest*, the authors attempt to persuade the audience without sounding offensive by allowing readers to have their own interpretations. Given the nature of English and Philosophy studies, authors in these disciplines tend to use hedging to enter a negotiation with the audience.

Cross-disciplinary variations: Possible and likely

The two hedging adjectives *possible* and *likely* were rare in English (3.6% of all hedges in this discipline) and History and classical studies (4.5%) but were more than twice as common in Sociology (9.6%) and Economics (13.1%). This may be because these two hedges are often used to make predictions, which is more relevant to Economics and Sociology than to English and History and classical studies. Cross-disciplinary differences were also found in the roles of these hedging adjectives. Examples are as follows.

Excerpt 4.1

Therefore, it's possible that if Jessica had not defied her father, he may have had a change of heart, consequently, alleviating sin from herself. [English; argumentative essay; Paper ID: ENG.Go.26.2]

Excerpt 4.2

One possible reason why poverty is seemingly absent from the public agenda is that poor individuals themselves are relatively silent on the issue. [Sociology; report; Paper ID: SOC.G1.03.1]

Excerpt 4.3

While perhaps it is most likely that Plato chose the dialogue because of the singular way it can engage a reader in the privileged teacher-pupil exchange, I would argue that the inherent

framing that occurs within each dialogue was also a major factor in his selection. [History & classical studies; argumentative essay; Paper ID: CLS.Go.01.1]

Excerpt 4.4

Thus, the marginal benefit of incarcerating an individual may decrease significantly with an aging population, despite the drastic increase in marginal costs that are likely to occur. [Economics; argumentative essay; Paper ID: ECO.Go.03.1]

In the English (Excerpt 4.1) and History and classical studies (Excerpt 4.3) papers, the authors used *possible* and *likely* in hypothetical statements or deductions about past events to avoid commitment to categorical assertions. English study is mainly dedicated to analyzing texts in the English language, possibly in relation to some cultural phenomena. Effective writers in this discipline are expected to be creative and critical in their writing. Similar qualities are expected in successful History and classical studies papers, where students situate the current time in relationship to the past through inquiry and interpretation. While demonstrating creativity and critical thinking, student writers in these disciplines need to resort to hedging devices to avoid commitment to categorical assertions that “experienced academic readers judge to be unwarranted or unnecessary” (Allison, 1995, p. 1). In comparison, *possible* and *likely* were employed in the Sociology (Excerpt 4.2) and Economics (Excerpt 4.4) essays to make speculation or prediction based on the observed phenomenon (poverty being absent from the public agenda) or laws of economics (potential increase in marginal costs with an aging population). As the study of human behaviors and their social causes and consequences, Sociology papers are characterized by collecting and interpreting data and making evidence-based arguments. Similarly, Economics papers are heavily based on economic data. Since arguments are more evidence-based in these disciplines, hedging is more often used to tone down a knowledge claim when there is not enough evidence to make a stronger claim. That said, both *possible* and *likely* could be used to express epistemic meanings, showing uncertainty and tentativeness in most, if not all, disciplines. The interdisciplinary differences in their functions can be nuanced.

In sum, disciplinary differences regarding the frequency and functions of the most common hedges mainly exist between disciplines driven by concrete data (e.g., Mechanical engineering) and those driven by argumentation (e.g., Philosophy; English). The disciplinary differences, however, can be complex and nuanced as a result of the different nature of the fields. It would thus be inadvisable to apply the social/natural sciences dichotomy without caution.

Pedagogical implications

Research suggests that student writers often struggle to hedge appropriately and effectively as proficient native writers (NWs) do. Based on a corpus of 745 student essays by NWs and non-native writers (NNWs) of different L1s (e.g., Arabic, Chinese, Indonesian), Hinkel (2005) found a marked lack of lexically-advanced hedging and a tendency of exaggerate and overstate in NNW’ essays. Not only had the NNWs employed a severely limited range

of hedging devices as opposed to NWs, their choices of hedging devices are restricted to conversational discourse and casual spoken interactions. Similarly, Choi and Ko (2005) analyzed Korean postgraduates' research papers and masters' theses in the field of TEFL/applied linguistics. They found that hedging can be challenging even for NNWs of high level of English proficiency. Similar findings were also reported with Chinese learners of English (e.g., Allison, 1995; Hu, Brown, & Brown, 1982; Hyland & Milton, 1997). This line of research suggests that the problem of underusing hedging has been a long-standing one. The overuse of hedging is another issue in student NNWs' writing. Alonso (2019) found that Spanish learners of L2 English used impersonal expressions more frequently than NWs. The author points out that this may be due to the frequent use of impersonal expressions in Spanish. Thus, apart from the challenges coming from the "extremely troublesome" hedging devices (Hyland, 1996, p. 278), NNWs may also need to address the crosslinguistic influence from their mother tongue. The above findings echo what Hyland and Milton (1997) noted that a major problem faced by NNWs is to "convey statements with an appropriate degree of doubt and certainty" (p. 183). This necessitates a close examination of the use of hedging in successful academic writings, such as those captured in the MICUSP corpus, to help writing teachers guide NNWs to use hedging more effectively.

The findings of the present study have a number of pedagogical implications. First, the overall high hedging frequency across all disciplines are indicative of the significant role that hedging plays in English academic writing. It is therefore important for EAP practitioners to raise learners' awareness of hedging to express claims cautiously and advance linear arguments. Second, the findings are suggestive of a rich and multi-faceted hedging tapestry among different disciplines – substantial cross-disciplinary variations were revealed in terms of both the frequency and function of hedging devices in academic writing. Teachers and students are expected to be cognizant of these variations. Discipline-specific teaching is advisable and could be useful to help students construct their academic identity in their own academic community. For example, students of a specific discipline can explore the sub-corpus of the discipline to find out how different hedges are used in different contexts. They may then employ different hedges to achieve specific purposes, such as to be persuasive or to demonstrate critical thinking. Third, echoing the data-driven learning advocated by Johns (1991), the rich data yielded from this corpus research demonstrated the potential of corpora as a powerful pedagogical tool in teaching and learning English academic writing. The lack of learning materials, once a major reason that impeded second language learners from hedging their propositions appropriately and effectively (Hyland, 1998b), is no longer a conundrum in the face of the ubiquitous and easily accessible corpora today. ELT practitioners and students are encouraged to harness the benefits of corpora to advance and personalize their teaching and learning, which can happen beyond the classroom walls and thereby enrich or improve the remote learning that has risen during the COVID-19 pandemic. Looking beyond language learning, corpora can be much more than a collection of language patterns but a tool to develop students' capacity as autonomous learners. For example, in the absence of a human tutor, students can check whether their writing is grammatically correct (e.g., whether a collocation they are unsure about has been previously used in their field of study). Students can also explore various corpora – spoken English, written English, discipline-specific corpora – based

on their own needs and interests. They may even create personalized corpora using tools such as AntConc (Diniz, 2005).

Limitations and future research

With the limited number of hedges and excerpts analyzed in detail in this paper, this study only provides a general overview of the cross-disciplinary differences of hedging in students' academic writings captured in MICUSP. The findings are nonetheless rich and informative. To some extent the findings support the notion that hedging is more common in argumentation-driven subjects. Nevertheless, it is also important to note that variations can exist between disciplines under the same division. Such findings point to the need for more nuanced understandings of the use of hedging in individual disciplines that would allow for a fine-grained understanding of hedging as a means of informing EAP practice. Using annotation tools, for example, to explore the rich metadata available on MICUSP would be an important step in generating a richer understanding of the use of hedging across different disciplines. One sampling caveat in the current inquiry is whether the findings regarding hedging features can be representative of each discipline, considering that different paper types were examined. Different paper types may factor in the cross-disciplinary differences of hedging, which would be worth exploring in future research. Another fruitful line of inquiry might be a closer investigation of other forms of hedging, such as passive voice as a means for impersonal construction. Exploring these hedging devices would constitute a meaningful contribution to teaching hedging in English academic writing. Future research could also look into hedging features in different disciplines in relation to nativeness. It would be interesting to compare the results with Hinkel's (2015) study mentioned above.

Conclusion

This study contributes to the understanding of hedging patterns across different disciplines. An important contribution of this study is the inclusion of sixteen disciplines in the comparison. The findings reveal complex cross-disciplinary variations of hedging, from a frequency and function aspect, that can be attributed to the different nature of the disciplines. This study also provides an example of using corpora to assist language learning. Although the cross-disciplinary differences of hedging are complicated and multifaceted, with the aid of corpus-based methods, EAP practitioners would gain valuable insights to help their students better understand scientific rhetoric and academic writing.

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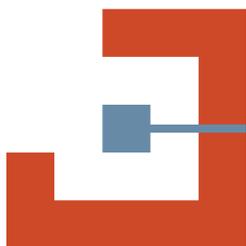
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