TESOL *in Context*

Teaching English to Speakers of Other Languages

Acknowledgement of Country

In the spirit of reconciliation the Australian Council of TESOL Associations (ACTA) acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respect to their elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today. We acknowledge that the arrival of the English language to this continent impacted the traditional languages and cultures of Aboriginal and Torres Strait Islander people, and celebrate the work to reclaim or maintain these languages. ACTA members teach English in addition to supporting the maintenance and development of First Languages, and encourage the acquisition and use of other languages – including First Nations Languages.

About**TESOL** *in* Context

Journal of ACTA, Australian Council of TESOL Associations

ACTA statement
TESOL in Context is a refereed journal with a wide target audience, both national and international. Readership includes TESOL / EAL professionals working in all sectors of education; universities, primary and secondary schooling, early childhood settings, adult migrant programs, vocational training, ELICOS and TESOL teacher education, both in Australia and internationally. Articles published in *TESOL in Context* typically examine the nexus between theory and practice.

The aims of *TESOL in Context* are to:
• provide professionals in the field with insights into TESOL issues in Australia and internationally
• contribute to the development of classroom expertise through dissemination of current research and thinking around TESOL.

For **guidelines** on length and presentation of items submitted to *TESOL in Context*, please consult the Notes for Contributors.

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Editorial: Digital Technology in Language Teaching and Learning

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Julie Choi
Sue Ollerhead
Editors

The prevalence of technology in all aspects of life over the past few decades has dictated that schools prepare and equip students to live and work in a world where information is produced and disseminated rapidly. Schools have a further responsibility to train students to acquire critical digital literacy (Bacalja, Aguilera & Castrillon-Angel, 2021) so that they can consciously and responsibly use technology not only for learning but also in all other spheres of their lives (Buzzard, Crittenden, Crittenden & McCarty, 2011).

This responsibility was further accentuated when the COVID-19 pandemic significantly changed the role of instructional technology in schools. Homes became classrooms and teachers had to find innovative ways to impart knowledge and engage learners (Seufert, Guggemos, & Sailer, 2021), especially in language teaching and learning classrooms where innovative ways of teaching include Computer-Assisted Language Learning (CALL), Technology Enhanced Language Learning (TELL) and Multilingual Computer-Assisted Language Learning (MCALL). This heightened the realisation that simply using technology for technology's sake without being directed by appropriate pedagogical principles fails to equip students with all the necessary skills to function in modern society.

It is then very appropriate that *TESOL in Context* has dedicated this special issue to the ways in which technology is being used across a variety of classroom contexts, ranging from school to university and adult literacy settings. This special issue comprises five research articles and three book reviews expounding on how teachers, guided by particular pedagogical principles, have chosen and employed different technological tools in their language teaching to inspire student learning.

The editors of this special issue, Dr Shashi Nallaya, Dr Julie Choi and Dr Sue Ollerhead would like to express their immense gratitude to the reviewers, editorial board members and journal coordinator Skye Playsted for their time, expertise and dedication in bringing this issue to fruition.

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Rethinking Reading at Home: Connecting families with multilingual digital texts

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Abstract: *Reporting a Brisbane Catholic Education (BCE) project spanning 2018-2020, this paper looks at what happened when early primary English as an Additional Language or Dialect (EAL/D) learners were given eReaders with multilingual texts to take home to read together with their families. The shift in pedagogy to view our learners as multilingual and developing multicompetence rather than English language learners only, influenced our decision to make digital texts in community languages more readily available to our students. Although our increasingly digital world has led to improved access to information, texts in different languages and the opportunity for students to access learning in different ways, we realised that many students at BCE schools, particularly those from a refugee background, have limited access to these resources. Along with improved access for students, we also wanted parents to have access to reading materials in their home languages, so that they could read together with their young children. Our goal was not only to facilitate reading in both home languages and English but to create greater student engagement in reading, while strengthening home and English literacy. In the course of developing the BCE digital library, we realised that we needed to find out more about what helps our multilingual students with reading and gain a greater understanding of family literacy practices in our school communities. Our learnings about the sustainability of libraries, student progress in reading, and family literacy practices in Brisbane Catholic Education school communities has important implications for how we teach multilingual learners to read today.*

Introduction
In 2017 and 2018, several schools in the Brisbane Catholic Education (BCE) system enrolled large numbers of English as an

Additional Language or Dialect (EAL/D) learners with a refugee background from Syria and Iraq. Within that group were significant numbers of children in the early years of primary school, aged from five to eight years old. Teachers of these young EAL/D learners expressed concerns that they were not progressing in reading. Their evidence of lack of progress in reading came from system literacy monitoring tools, including the PM Reading Assessment Resource (2009) which assesses reading accuracy and comprehension.

Although these observations about reading development showed a lack of progress, it should be noted that the results could not be considered unusual. Using the English language learning scales, the NLLIA Bandscales (McKay, 2007), showed that the progress of these young refugee background learners in reading was consistent with being newly arrived in Australia. As Gibbons (1991) confirms, "These children have full capacity for learning, but in an English only class they are without the language that will allow them to do so" (p. 61).

Learning to read in another language requires readers to both bring their own background knowledge to a topic and also develop their understanding of the language system itself. A means of meeting the first requirement is through using home language for reading. This approach creates a social environment for learning that provides a link to the language of the home and family. As a result, this would reduce the trauma and alienation children may experience in a new environment, and helps develop confidence and self-esteem (Gibbons, 1991).

The idea central to this project of using multilingual texts is based on extensive research showing the benefits of learning using home languages (Harper & Brand, 2010; Heugh et al., 2019; Martinez, 2018). The project also took into account the importance of acknowledging, building and celebrating the different 'funds of knowledge' (Gonzalez et al., 2005) that diversity in language and culture can bring to a school community. We aimed to effect change by capitalising on the diversity of language and culture in BCE schools to build more effective partnerships with families and their communities (Cairney & Ruge, 1999). Specifically, we sought to utilise and understand the role of family literacy practices for young EAL/D learners, learning to read. Ultimately, this signals that, "We accept your language and - by implication - your family, your ethnicity and your culture" (Gibbons, 1991, p. 62).

In response to these considerations, we decided that by providing multilingual families in our schools with access to e-books and audiobooks (digital texts) through the BCE Digital library using loan devices, we could create greater engagement in reading while strengthening home and English literacy and language.

The BCE Digital Library and e-Readers
The Brisbane Catholic Education Digital Library delivered through *OverDrive's* digital reading platform, was established in 2013. It was intended as a supplementary resource, designed to complement both the central office and school libraries with access to digital content available to all students and staff. Within this digital library, provision had been made for a Languages Collection. This particular collection was initially curated by Languages teachers within BCE to review and select books to use with their own classes in Japanese, French, Italian, Chinese, Spanish and Indonesian. Using their expertise, digital texts were chosen that were age appropriate and of interest to both teachers and students.

Some schools also had existing multilingual print collections. However, access to these books was only for students attending those particular schools. In addition, the changing demographics of schools meant that these existing collections were not necessarily in the home languages used by current students. Schools were also constrained by the number and quality of print books that they could make available to students for reading in home languages.

The arrival of students from Syria and Iraq in BCE schools coincided with the development of the Languages collection within the digital library. We realised that the Languages collection could be extended to include Arabic and other home languages, so that we could support students' reading choices using their home language.

Another consideration in this project was the students' access to devices to download and read the digital texts in their home language. While research and reports show that digital inclusion is slowly increasing, the "digital divide" is still a reality for many families in our school communities, particularly for those with refugee backgrounds (MYAN, 2020). As e-books are usually accessed via an internet connection and either a computer or other device, many refugee families lack the ability to access or

purchase these items (Twill, 2012). Information from teachers about the Syrian and Iraqi background students' access to digital technologies and resources, was consistent with this data. Most families only accessed the internet for communication with their home country via mobile phones and did not have access to a computer or tablet for educational purposes.

The Australian curriculum area of Digital Technologies along with the general capability of Information and Communication Technology (ICT) emphasise the importance of building skills in learning and equipping young Australians to live and work successfully in the twenty-first century. Underpinning this is our understanding that literacy expands beyond language proficiency to the digital world (Walker, 2013). Unless students have access to digital technology inclusive of devices, systems and resources, the gap between those who have access and those with limited or no access creates a "digital divide". "A school can implement technology and teach every student how to use it, but if a student doesn't have access to a device or internet at home, they won't show the same academic results" (American University, 2020). Through collaboration with the schools to improve access to either the internet, devices or digital resources was at the foreground of our project planning to bridge this "digital divide".

Project design

With a project budget of $1,000, ten low-cost android devices were purchased. They were used as loan devices along with five repurposed ipads. These devices were set up with access to BCE Wi-Fi and the *Sora by OverDrive Education* reading app to enable students to borrow and download digital texts from the BCE digital library. The purchase of digital texts did not need to be factored in as they were already budgeted for in a separate on-going central resource budget for the BCE digital library.

Twenty-eight families from three schools took part in the project across 2018 - 2020. The project ran consecutively in each of the three schools with no overlap, due to the limited number of e-devices available. Schools are discussed in order of their participation.

The first school in the project was located on the southside of Brisbane, Queensland. This school had a significant group of Arabic speaking families, newly arrived from Syria and Iraq. Supporting these students were Arabic speaking Bilingual School Officers (BSO) employed by the school. Their role is comparable

to a bilingual teacher aide or assistant, building and maintaining the home language of the EAL/D learner and aiding communication between the school and home. At the first two schools, the bilingual school officers played an essential role in the project. They supported the young learners in locating and choosing digital books, interpreting Arabic and English during parent meetings, translating communications to parents, and developing efficient procedures for the borrowing and returning of digital books and the devices. They also played a crucial role in the selection of appropriate texts to build the Arabic language digital library collection as we were unable to make informed decisions about the suitability of titles. This was necessary as there was no English translation of the book reviews available on the digital book purchasing platform.

In Schools One and Two, EAL/D teachers identified families that may be interested in participating in the project. At these schools, the families had either Arabic as a home language or Syriac, a language from the Northeast of Iraq. The Syriac speaking parents also spoke Arabic, the language they were educated in. A letter in Arabic was sent home to prospective parents asking if they would like to take part in the project.

School Three was a much smaller school than the first two and did not have any newly arrived learners from Syria or Iraq. The school expressed interest in participating because they had heard about the project from the other two schools. The participants differed from the previous schools as instead of one language group, several languages were in use. After the EAL/D teacher identified possible participants, the teacher-librarian approached families individually. The Spanish speaking teacher-librarian helped choose suitable texts with the learners and liaised with the families.

At all schools, families were required to attend an information session in person to find out about the project, how borrowing would occur and to discuss the practice of shared reading in relation to both the nominated home language and English. This was an opportunity to also share the benefits of shared reading between family members and the value of using home languages to read and discuss books.

These sessions also provided the opportunity to explain that reading together or shared reading was not the same as the common homework practice of a student reading aloud a levelled reader to a parent, sent home by teachers for students to practise

their reading. Reading together or shared reading is shaped by the idea that children become literate by participating in literacy events defined by their home culture and that home literacy practices vary among cultures (Heath, 1983). Shared reading is defined as an interactive activity during which a child and adult share reading a book. The adult models reading or take turns in reading the text with their child (Begin Learning Team, 2020). Frequent shared reading, parental interactions and responsiveness are known to be important in the development of language and literacy with the conversations that occur as a result being just as important as the reading itself (Curry, Reeves & McIntyre, 2016).

Each student was given a loan device and participated in an interest survey to support them in their reading selection. Families were also provided with a *How to Guide*, a *Reading Bingo* game to help get started with borrowing, and a *Reading Diary* (see Appendix 1).

The sequence of the events at each school followed the same format with four main parts: the parent information session including exchange of ideas about shared reading in home language; the process of selecting, borrowing; downloading the digital texts at school; the reading of the digital texts together at home and providing feedback and information. These events are summarized and sequenced below. The amount of time for participation at each school varied, influenced by external factors, including staff changes and the beginning of Covid with the first school participating for 6 months, the second for 12 months and the third for 6 months.

Summary of sequence of events

1. Student participants identified
2. Collaboration with bilingual school officers and teachers supporting reading choices and use of devices
3. Parent information session and demonstration of use of the device
4. Interest survey completed by students
5. Ongoing cycle: texts selected, borrowed and downloaded with bilingual support; reading of digital texts together at home; returning of device to school
6. Parent survey and feedback
7. On-going data collection and analysis of data.

Results

Project results were measured through feedback from parents, students and teachers, improvement in English reading levels and engagement in reading in both home language and English.

Feedback from parents was through a survey and oral commentary, translated and reported back by bilingual school officers. Improvement in reading during the life of the project and after was measured through progress in Speaking and Reading on the NLLIA Bandscales (2007) and PM Reading levels (2009).

Analysis of the data showed:

- engagement in using the digital texts and families reading together was high at all three schools
- students who consistently borrowed books improved dramatically in reading in English
- some students who previously lacked motivation to read prior to the project and had been stuck on early level PM readers, were able to progress to higher PM levels over the life of the project
- Parents reported that students:
  - enjoyed reading, not only with parents, but with older siblings and grandparents
  - proficiency in speaking and knowledge about reading in home language developed and improved.

Discussion

Student reading improvement and engagement

Prior to the project, the majority of students' reading progress had plateaued at low levels (Level 1 or 2) on both the NLLIA Bandscales and PM Benchmarks over a period of several months. For a number of students, we saw an immediate increase in PM reading levels when they commenced borrowing digital texts in home languages and English.

Figure 1 with PM results for one student from School Two shows an example of this pattern. This particular student had plateaued at the lower levels of PM Benchmarks. The student's reading level immediately increased when they started borrowing Arabic and English digital texts. This rise was consistent in the months following until reaching the highest PM benchmark.

Figure 1: Individual student's longitudinal performance: PM Benchmark
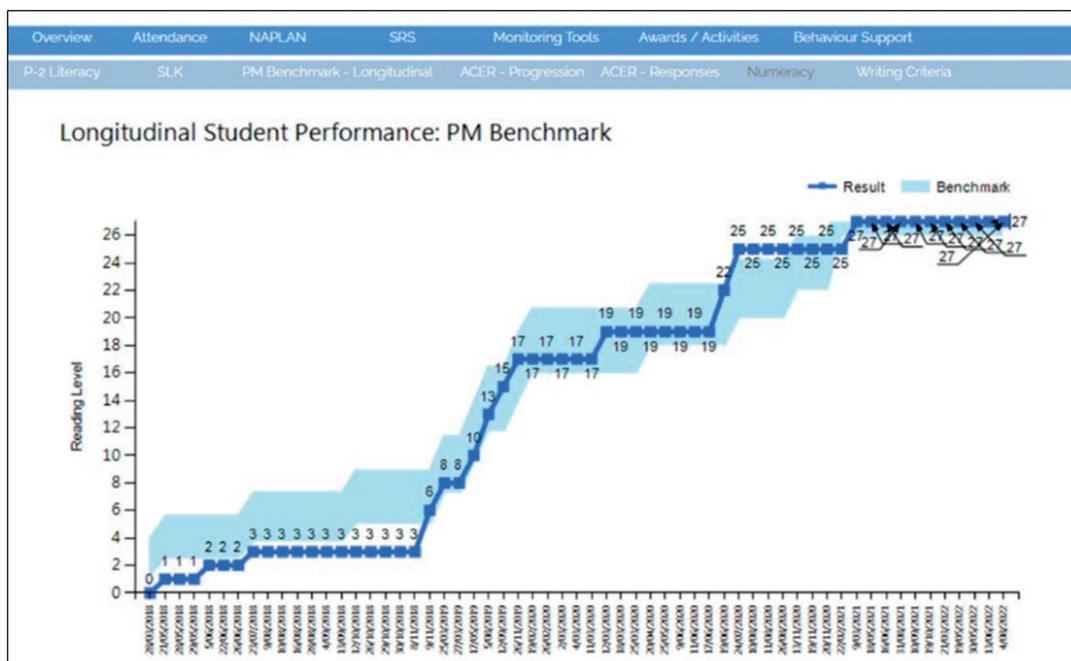
Engagement in the reading of digital texts was high in all three schools. Students were very excited about having a digital device of their own to engage with digital reading materials. Most students were reliable in returning their devices to the school to download new texts. Over the course of the project, only one family opted out while another family transferred to another school.

Home literacy practices

An important consideration underlying this project was the understanding that developing and maintaining literacy in home languages develops meta-linguistic understandings and improves use of both home languages and English (Harper & Brand, 2010; Heugh et al., 2019; Martinez, 2018).

This was observed at School Three when transference of reading skills between home language and English occurred. A student whose home language was Spanish was sharing a book with the Spanish-speaking teacher librarian and was recorded on video. This student began by listening to the teacher reading and answering questions about the book on the Solar System. By the fourth page, the EAL/D learner took over from the teacher, reading in Spanish. Her parents confirmed that previously the student had only ever read in English independently using levelled readers sent home by the teacher.

When families share a book in their first language with their children, they are building the foundations for a positive attitude to reading and expanding on the child's language skills. It expands vocabulary in both languages and connects with culture (Lowe, 2017).

We knew that reading to and with children may not be a feature in many multilingual learners' home literacy repertoires. This was confirmed by one of the Arabic speaking bilingual school officers who explained that reading to children was not a home literacy practice for her family in Syria. This bilingual school officer shared with us that reading books did not feature until she was sixteen years old. Instead of reading texts herself or being read to, she accessed stories through video.

A few families from Iraq also participated in the projects. Although no books were available in their home language Syriac, they were very interested in being able to read the books within their language repertoire. When using bilingual Arabic/English books, they translated from Arabic to Syriac and practised reading in English for both themselves and their children. For one student whose family engaged in this practice, improvement in confidence, behaviour and engagement in school increased. There was also an immediate improvement in reading in English.

Parental engagement

At the initial parent information sessions, interest in participating in the project was high. All parents were firm in their belief that using their home language would strengthen family connections and home language. Despite this, a small number of parents initially could not perceive the benefits of reading in home language, believing that that their child should only be reading in English. At the parent information sessions there was robust discussion on whether reading only in English was the most beneficial way to learn English and to learn to read. They believed that reading in home language would hinder the process of learning English.

By the conclusion of the project at each school, parents had developed a greater awareness of the benefits of reading together in both home language and English. Some parents suggested that the project be extended to include their older children who enjoyed reading their younger sibling's texts. One parent commented that it was good to compare language structures in Arabic and English to help with meaning. Several parents

commented that they liked to use the resources to learn English themselves and make comparisons between their home language and English.

At the first two schools where the students were of a refugee background, parents were reluctant to use their own internet resources because of the cost. As a result, borrowing and downloading of texts was only done at school, even though students could borrow from home using their school login. At all three schools parents were concerned that they would be responsible if the devices were lost or broken.

Student interests survey

Prior to students borrowing digital texts, they participated in an interest survey (see Appendix 1). Students identified their interests using pictures and discussion with an adult. The survey was designed to guide the adults supporting the students' search for engaging multilingual and English reading materials that would meet their needs and interests. Equally important was that this survey informed the ongoing selection of texts for the digital library.

Conversations arising during the student survey revealed that often as adults we make assumptions about what we think young readers like to read. For example, an initial assumption was that the students would like to read stories about cats and dogs. However, during those conversations, students shared that they were interested in monkeys and dolphins, not cats and dogs.

Many students preferred non-fiction texts. One student said, "I don't like storybooks. I like reading about things that are real."

Another finding was that audio-only books were too hard to comprehend and that students preferred read-along e-books.

These findings strongly indicate that the selection of texts requires input from students, rather than relying on adult assumptions and biases. We found that building a multilingual digital collection required a concerted effort from all stakeholders and that it was highly important to recognize student voice and agency. This has implications for engaging students in reading and teacher selection of reading materials. In conversations with students, we found that they had strong preferences for what they wanted to read and discarded materials that did not meet their interests. When matching reading materials to student needs teachers must take into account individual interests.

Challenges and opportunities

It was envisaged that students and parents would eventually borrow by themselves at school or at home. This was more prevalent at School Three, where many of the participants were from a migrant rather than refugee background and had lived in Australia for a longer period. They owned their own devices and used them to borrow and download books at home.

A search of library usage showed that some project participants continued to use the digital library beyond the life of the project. However, for many students, once the devices were returned, they could no longer access the digital library at home, as there was only one shared device for the family. For example, a student from the first school who took part in the project beginning in October 2018 continued to borrow books from the digital library into 2019, and stopped using the digital library when the loan devices were returned and redeployed to another school. Follow up with the student in 2022 revealed that there was no longer access to a device at home because there was only one shared iPad, prioritised to be used by other members of the family. However, a school library usage report for this student showed that while the digital library was no longer accessed, the student continued recreational reading through the school library. This report showed that the student read 167 print books from October 2019 to September 2022, across a range of genres, with more recent choices showing a preference for humorous books.

This student's school and most other BCE schools have devices that could be repurposed as loan devices and be loaned out like any regular library resource. While some schools have taken this approach on board others remain reluctant. Our data showed that engagement with digital texts is limited when there is no opportunity for students to take home a device and there is no support from an enabling adult. Feedback from schools showed that the fear of damage or loss was the main reason why digital devices could not be loaned to students. Over the two years of the project not one of the loan devices including cables or chargers was damaged or lost.

Feedback also uncovered that time constraints were an impediment to schools using loan devices for borrowing digital texts. Bilingual school officers or teachers supporting the selection and borrowing of books required at least one to two hours each week to do this. Whilst this was a challenge, it presented an opportunity to look for other ways that families and the school

community could engage with the digital library. One solution is that schools review their practices to create conditions for greater digital access and to build awareness and knowledge in the wider school community.

While the project focused on three schools with a small cohort of participants, on-going usage reports reveal the Languages/Multilingual collection is accessed to some extent by all schools and a growing number of students. Borrowing patterns show that there is a greater awareness of the digital library from both staff and students. There is more variation in reading material and more books for older readers. The recent addition of magazines and comics has meant that students who have low reading levels in English can access age-appropriate content.

While publishers are becoming more responsive to user needs and interests, such as the recent addition of books in Ukrainian, there is still a need for a greater range of quality texts within particular languages. Availability of multilingual digital texts is determined by the publisher and does not match the number of languages used in Australian communities.

The languages available in digital texts are Eurocentric and include a few major Asian languages, but no languages from the Pasifika region. If we want parents to engage in recreational reading in home languages and schools to promote digital texts for learning, the range and quality of multilingual digital texts must be expanded.

Although the project was small, the results have shown that the practice of shared reading in home languages and English is of great benefit to families, students and schools. We found out more about what helps our multilingual students with reading and gained a greater understanding of family literacy practices in our school communities. The project has shown that providing access to devices, the internet and quality multilingual texts through a centrally funded and managed digital library is strategic, sustainable and can bridge the "digital divide".

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Appendix 1: Family resources and interest survey

How to guide

Reading bingo game

Reading diary

Reading interest survey

Bernadette Barker is an Education Officer in the area of English as an Additional Language/Dialect (EAL/D) for Brisbane Catholic Education. Her work in EAL/D began in 1992, teaching newly arrived students in various school settings. In her current role, Bernadette provides professional learning, consultation and advice to teachers across 146 primary and secondary schools. She has collaborated extensively with her co-author in resourcing and presenting professional development. Bernadette is passionate about building teacher awareness in recognising the richness of multilingual learners' linguistic repertoires as a foundation to support EAL/D learners' language and literacy learning.

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Exploring the experience of Year 10 South Korean students' English language learning in immersive virtual reality.

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Abstract: *A prescribed English language textbook often directs classroom teaching practices in secondary school classes in EFL contexts, such as in South Korea. The textbook is often accompanied by multimedia resources which are delivered to students as input at a regulated pace with limited opportunities for communicative interaction or spoken output. Such opportunities are further limited in the community outside of the English classroom. Immersive virtual reality (i-VR) has the potential to situate learners in a real-world context for authentic application of textbook language learning. English teachers in the formal classroom focus on linguistic competence development within time constraints by teaching new vocabulary and grammatical items in decontextualised forms. By comparison, i-VR environments focus on learning to construct meaning in communicative events in contextualised, real-world settings based on students' existing linguistic knowledge and ability. In a small-scale pilot study, two teachers of Year 10 English classes in Seoul implemented four i-VR language learning modules in their classes: one as a self-directed learning experience that extended beyond formal classroom learning, and the other as a teacher-facilitated learning experience within the formal classroom. On completion of the four modules over a two-week period, the participating students completed an online questionnaire and a voice recording of a spoken task. In addition, both teachers were interviewed after the two-week implementation to seek their views on their perceptions*

of the value of such i-VR learning for their students. Overall, students reported a positive correlation between their enjoyment of the experience and their perceived competence and confidence improvement. Beyond the motivational and entertainment value, the teachers viewed the i-VR experience as capable of incorporating pedagogical structures using the embedded multimodal resources that is less possible in other immersive forms of language learning. Moreover, the teachers believed that incorporation of authentic conversations and interactional opportunities could further enhance the learning potential.

Keywords: *Immersive Virtual Reality, Multimodal Resources, Foreign Language Learning, Speaking Competence Development, Teacher Perspectives, Learner Perspectives*

Introduction

The privileged position of English as a means of intercultural communication across the globe, often without the presence of a monolingual English speaker, presents the development of communicative competence as a desirable goal of English language learning. Despite learning English from a young age at school as a subject, many countries where English is not spoken as the main language of communication lack regular exposure to English language use to practice spoken communication. Most often, learners of English as a Foreign Language (EFL) practice communication in brief interactions with peers and the teacher in a classroom setting. Role-play activities are commonly used to imitate imagined settings and scenarios for the development of spoken communication. Recent developments in digital technologies offer greater opportunities to situate learning in intercultural contexts for contextualised communicative development, thus providing a shift from EFL as a classroom subject to English as a Lingua Franca (ELF) for intercultural communication.

South Korea is regarded as an innovative global leader in technological development with globally recognised high-tech industries (Dayton, 2020). Thus, learning English as a foreign language in South Korea is important for its contribution to global economic development. Although learners use prescribed textbooks in the classroom with accompanying multimodal resources for learning, teachers follow the textbook with a focus on grammar and vocabulary development through reading,

listening and writing. Such a focus develops a good level of linguistic knowledge and competence, but few opportunities for spoken communication and interaction occur within school classrooms or are available to learners outside of the classroom in the broader community. Students who want and can afford conversational practice in English outside of school hours often enrol in private language centres.

Implementing mandated communicative language teaching approaches to English as a Foreign language classroom settings can be challenging as reported by many research studies in various countries, including South Korea, China, Vietnam, Japan, Libya and Saudi Arabia (see, for example, Alharbi, 2015; Lan & Grant, 2021; Lee, 2014; and those listed by Littlewood, 2012; Rao, 2013). Reported challenges include the expense of quality teacher training, cultural beliefs influencing education, the manageability of large classes sizes, time constraints on learning, focus on exams for assessment, goals of learning English, and textbook selection informing classroom practice. Littlewood (2012, p. 352) notes that "the reported problems relate especially to the domain of communicative activities (or 'tasks'), in which students exchange messages with the teacher or with each other". Jeon (2009) discovered similar issues by Korean teachers who proposed smaller classes, more training and more supplementary materials as being the most important.

Recent innovations in digital technologies have provided new opportunities for EFL learning and communicative competence development within and beyond the classroom setting (Asratie et al., 2023). One such technological innovation is immersive virtual reality that locates the learner within a high-fidelity multi-sensory real-world environment that can be explored using a head mounted display (HDM). An instructional design can be embedded that makes use of multimodal resources for the scaffolded development of aural/oral skills, informed by classroom learning. The multimodal resources can be situated and sequenced in an authentic meaning-focussed setting to develop competence and confidence in spoken communication.

This paper reports on the findings of the implementation of a small-scale project, funded by the Australia-Korea Foundation. The purpose of the project was to provide Year 10 students of English in Seoul, South Korea, with a low-cost, accessible solution to develop their speaking confidence and competence in English informed from their classroom learning. The i-VR environment

was designed to provide a better understanding of Australia and its lifestyles through immersion in locations and experiences using a virtual reality environment with embedded multimodal resources to scaffold students' learning.

Specifically, the paper reports and discusses participating students' perceptions of their experiences of learning within the environment and analyses their spoken task-based outputs in the form of voice recordings to better understand their spoken communicative abilities informed by their experience of the i-VR learning modules. Additionally, the paper reports and discusses the English language teacher perceptions of the language learning challenges facing English language learners in South Korea and of the value, or otherwise, of the immersive virtual reality modules as one possible support for the contextualised development of students' English oral skills beyond formal classroom learning.

Literature Review
Confidence in Spoken Communication
Spoken communication between interlocutors involves the speaker's intent and the listener's interpretation to provide an appropriate response (DeCapua & Wintergerst, 2004). This dynamic process requires the co-construction and negotiation of meanings within cultural and situational contexts, primarily dependent on the speakers' status, relationship, and communicative purposes (Derewianka & Jones, 2016). The meanings conveyed are experiential and ideational, interpersonal, and textual, and they manifest the field, tenor, and mode of the situational context, as well as the social purpose of communication in the cultural context (Derewianka & Jones, 2016; Nguyen et al., 2017).

Making appropriate language choices for co-constructing meaning relies on shared norms and expectations of communication in a given circumstance. When norms are not shared or expectations differ due to cross-cultural differences in communication, breakdowns in communication are likely to occur (DeCapua & Wintergerst, 2004). Communication breakdowns can result in reduced confidence and increased anxiety among English language learners, making them more reluctant to engage in future communicative interactions (Kim et al., 2022; Su, 2021).

A recent study by Kim et al. (2022) which examined two groups of South Korean short-term sojourners in Australia regarding their willingness to communicate (WTC) found that the participants speaking with native speakers in community created

anxiety for them. The study revealed that the participants' "inclination for L2 communication was motivated by L2 communication confidence, perceived L2 competence, integrative motivation, and was also mediated by the new sociocultural environment, their sense of identity, and emotions" (Kim et al., 2022, p. 18). WTC in the study, "particularly the willingness to engage in potentially extended and open-ended L2 conversations, was found to predict the amount of L2 exposure during sojourn" (Kim et al., 2022, pp. 18-19). Thus, our project explored whether exposing foreign language learners to modelled samples of target language use in Australian situational and cultural contexts with reduced risk could lead to greater confidence in achieving beneficial speaking outcomes, particularly in preparation for cross-cultural interactions.

Communicative Competence Development
Communicative competence, first introduced by Dell Hymes in the early 1970s, has evolved as a conceptual model comprising several sub-components, each with underlying conceptual models. Key components include linguistic competence, discourse competence, pragmatic or sociolinguistic competence, strategic competence, and intercultural communicative competence (Usó-Juan & Martínez-Flor, 2008). Discourse competence, central to communicative competence, incorporates the enactment of the other sub-components through the macro-skills of speaking, listening, reading, and writing (Celce-Murcia, 2008; Usó-Juan & Martínez-Flor, 2008). It extends communication beyond the sentence level, allowing the generation of conversations within situational contexts. Discourse competence necessitates linguistic competence to facilitate the co-construction of meaningful conversations informed by pragmatic competence and intercultural communicative competence. In cases of communication breakdown, strategic competence plays a role in repairing the conversation to meet the goals of the communicative event. Successful communication requires familiarity with the norms and expectations of interaction in a given circumstance within a specific discourse community (DeCapua & Wintergerst, 2004).

The Dynamic Interplay of Language and Culture
The key to effective communication lies in possessing both linguistic and cultural knowledge and awareness. Language serves as a cultural practice, embodying and expressing culture (Moran,

2000). Cultural learning encompasses not only knowledge about a culture but active engagement in its practices and understanding the underlying perspectives (Moran, 2000 & Byram, 2020). This learning process fosters self-awareness and enables individuals to identify themselves as both language speakers and practitioners of diverse cultures. Norton (1997) emphasizes that through speech, language learners not only exchange information but also shape and redefine their identity and relationship to the social world, engaging in identity construction and negotiation. Kramsch (2004) views culture, through the dynamic concept of language relativity, as membership within discourse communities where individuals identify with specific social roles reflecting distinct discourses in a particular society.

Immersion in Foreign Language Learning
Language and culture immersion in the target language use context has long been a proven method for learning a foreign language, particularly for developing spoken communicative competence, as it provides context, exposure and experience necessary for foreign language learning (Peixoto et al., 2021; Wang et al., 2022). Communicative competence recognises language learning as an endeavour to make meaning in situational and cultural context (Alptekin, 2002; Celce-Murcia, 2008; Uso-Juan & Martinez-Flor, 2008). However, it is challenging to create such authentic communicative contexts in the foreign language classroom.

Many teachers have limited success in implementing communicative approaches in the formal classroom setting where language is somewhat decontextualised and the focus is on form at the sentential level. Moreover, nationally adopted language textbooks play a central role in classroom practices in EFL settings, but their focus tends to be on the development of linguistic knowledge and competence which is essential for the development of other subsets of communicative competence, including discourse competence and intercultural communicative competence. Liang (2012, p. 16, citing Boxer, 2002, and Kasper & Rose, 2001) argued that "despite various communicative goals, second language (L2) learners are less likely to produce natural conversation or learn pragmatic language in traditional classrooms without adequate pedagogical strategies".

Due to the limitations of the EFL classroom setting for the development of spoken communicative competence, particularly

in East Asian contexts (Chang, 2010), study abroad programs have endeavoured to enhance and apply textbook learning from formal classroom settings to real-world applications. Despite their benefits, not many students have the finances or opportunity to participate in such immersive language learning programs. Language learning beyond the classroom offers new spaces and opportunities to improve the overall language learning process without travel or much additional expense (Reinders et al., 2022). Moreover, an increasing body of research has proposed technological solutions to support the development of spoken competence and interactional competence to address the shortcomings in formal classroom learning (e.g. Liang, 2012).

However, according to Lai et al. (2015), it is important to note that not all language learning experiences outside the classroom have the same level of effectiveness. In many cases, students are unable to make informed decisions about these experiences on their own. Hence, teachers play a crucial role in influencing the quality of students' out-of-class learning (Lai et al., 2015). Therefore, it is advised that they play a more active role by recommending learning resources or monitoring learning efficacy, and effective language learning activities that maximize the affordances of mobile devices so that 'informal' learning can better support 'formal' learning (Lai et al., 2015; Yuan, 2022). In particular, more immersive, high-fidelity, real-world, authentic experiences are becoming increasingly available through immersive virtual reality technologies that provide a deeper and richer immersive sensory experience than simply being present in a virtual space.

Immersive Virtual Reality
Immersive Virtual Reality (i-VR) in its physical form comes in three main types as defined by Hamilton et al. (2020): a head mounted display (HMD) as a device worn over the head, which provides a stereoscopic computer-generated or 360° video image to the user, either (a) tethered (connected to a computer), (b) stand-alone (no computer needed), or (c) mobile VR headsets (mobile/cell phone connected to a HMD). The three types consist of different levels of experience and access different systems and applications for the creation of an immersive real-world experience.

i-VR and Foreign Language Education
Much of the research on i-VR in foreign language education

shows a positive impact with improved students' learning (Chateau et al., 2019; Chen, 2016; Ebert et al., 2016; Garcia et al., 2019; Pack et al., 2020; Zhang, 2020). This represents a broad field of study that includes a range of i-VR technologies from semi-immersion to full immersion and includes languages other than English, but the majority of studies tend to be on English as an additional, second or foreign language, followed by Mandarin Chinese and Spanish.

The findings of the studies report that the i-VR enhanced learning was perceived as more enjoyable and effective than conventional classroom methods (Ebert et al., 2016). Studies also show that i-VR technologies not only have a positive effect on students' linguistic abilities but also on their cognitive abilities (Chen, 2016). Moreover, i-VR could be beneficial in enhancing learners' motivation by bringing language learners closer to the target language culture and create realistic simulations that would not even exist in the physical world (Alizadeh, 2019).

Motivation is well-acknowledged as an essential factor that contributes to success in learning an additional language (Lamb, 2017). When regular exposure to the target language is limited, increased motivation and investment are required over many years to achieve target language user levels of communicative competence (Norton, 2014). The i-VR system increases students' motivation or willingness to learn, which contributes to their enjoyment of language learning from feelings of presence and immersion in a novel learning environment or contextual setting that extends the physical boundaries of the formal classroom setting into a virtual space (Liang-Yi, 2011; Pack et al., 2020). This results in greater focus and fewer distractions to learning (Pack et al., 2020).

The integration of avatars in the learning materials and the freedom to revise and upskill at a self-regulated pace offers learners, particularly lower-level learners, the chance to improve their learning efficacy (Adnan et al., 2020; Divekar et al., 2018; Liang-Yi, 2011). Overall, the majority of studies revealed that i-VR environments for language learning result in high levels of active student participation, high levels of interactivity, navigation and interaction with avatars and even recreation of circumstances and places of cultural importance (Adnan et al., 2020; Cheng et al., 2017; Ebert et al., 2016; Garcia et al., 2019; Liang-Yi, 2011). However, these results must be considered according to the form of i-VR experience offered to learners.

i-VR and multimodality for language learning
i-VR has the capacity to embed objects and multi-sensory resources within the spherical space of the virtual world to enhance the learning experience (Blyth, 2018). The multi-sensory resources are a combination of the virtual environment itself and the multimedia resources embedded within. The contextual connection between objects in the environment, explanatory text and audio panels of the objects, and video panels with audio and text, create a web of contextual semiotic resources as input for learning. When these inputs are encountered individually, they are considered multimedia resources. However, once combined and placed within a specific environment, they transform into multimodal semiotic resources, serving as valuable learning inputs. Virtual guides can provide direction, explanation, and instruction within the virtual world while text on panels can be coloured for points of focus, audio inputs can offer text-to-speech functionality, and visual and video resources can provide dynamic input. All internal resources combine to design a rich semiotic social space for purposeful meaning-focussed learning. The direction, sequence and nature of the multimodal resources scaffold learning and create a prescribed instructional design. Such an experiential instructional design largely addresses the issue raised by Blyth (2018) of not only experiencing the context but also learning within it by "entextualising" the context or transforming it into "analysable text" through the use of embedded video and multimedia, thus making "experiential learning a reality". Blyth adds that:

> "As language technologies grow more immersive, educators increasingly view language learning in terms of a complex social activity – heavily contextualized, thoroughly embodied, and largely experiential" (Blyth, 2018, p. 226).

Distinctions between the i-VR environment and the classroom setting
Tan et al. (2016) argue that virtual environments offer greater potential for language learning compared to classrooms, but careful consideration must be given to complexity and pedagogical design. Different semiotic resources have varying affordances and constraints in expressing meaning (Jewitt, 2003; Kress, 2009; Machin, 2013; Van Leeuwen & Kress, 2001). Multimodal language inputs in immersive virtual reality enhance meaning-making and language learning. Embedding these inputs supports scaffolding and enriching the learning environment, enabling the design of a pedagogical framework specific to virtual reality.

Although a pedagogical framework and instructional design are possible, informal language learning beyond the classroom requires self-regulation and self-efficacy. Mascolo (2009) highlights the instructor's significant role as an active participant who guides learning in student-centered learning settings, following Vygotsky's idea of the 'more knowledgeable other.' Virtual guides within immersive virtual reality can serve as instructors and facilitators of learning. Moreover, the linear 360-degree i-VR video format with embedded resources offers agency to learners by allowing them to rewind, forward, skip irrelevant sections, and review specific parts, granting autonomy and control over their learning. The i-VR environment also exposes students to diverse models of spoken English and accents, enhancing their range of communicative skills.

Parmaxi (2020) reported in a systematic review of literature on virtual reality and language learning that most research had been conducted on non- or semi-immersive virtual reality environments and not fully immersive virtual reality environments. He also noted that "existing research … pays little attention to low-cost fully immersive VR" and argued that "researchers should increasingly acknowledge the impact of immersive VR systems as a tool that can enrich the learning experience and provide real-life simulations within the classroom walls" (p. 10). Similarly, Southgate et al. (2018) report the benefits of highly immersive virtual reality for learning in the school sector and acknowledge that more research on the pedagogical design and classroom use of such immersive virtual reality environments is needed.

Few studies exist in which foreign language learners are immersed in a foreign culture context for exposure to the foreign language for experiential learning using a linear 360-degree video format. Berti et al. (2020) conducted a study in which 19 learners of Italian in the USA were immersed in three virtual reality experiences captured by the researcher in Italy, but without the embedded multimodal inputs or instructional design of our project. The study found that virtual reality was positively perceived and helped learners discover new cultural layers generally not encountered in traditional pedagogical materials. Despite the lack of interaction within the environment which many participants perceived as a limitation, the authors conclude that "highly immersive VR environments may still support students learning by providing personalized and contextualized learning opportunities that traditional materials do not offer" (p. 57).

Thus, similar to Berti et al.'s (2020) study and based on the findings of Parmaxi's (2020) systemic review, our team designed a low cost fully immersive virtual reality environment using a linear 360-degree video format with an embedded instructional design to investigate the potential of improving confidence and competence in speaking English among secondary school students in an EFL context. The discursive elements of specific language production that were modelled within the i-VR learning modules were procedural texts, personal recount texts and explanatory texts, each with its own grammatical form. The expectation was that students would be able to reproduce their own versions of these texts in spoken format, maintaining the integrity of the discursive form, based on their personal learning within the immersive virtual reality environment.

The design, implementation and investigated effectiveness of the virtual reality environment in this project was primarily informed by Makransky and Petersen's (2021) Cognitive Affective Model of Immersive Learning (CAMIL): a Theoretical Research-Based Model of Learning in Immersive Virtual Reality which is presented in the following section.

Project Design

For the purposes of this current project, the authors adopted mobile VR headsets for a low-cost implementation of an immersive virtual reality experience, since participants in the South Korean context had ready access to smartphones. YouTube offers a high-quality i-VR experiential online platform through free publication of captured and edited 360-degree video. The immersive environment allows a spherical view of the captured environment even when paused. When played, the video proceeds in a linear format towards a pre-determined endpoint. Multimodal resources can be embedded within the video at specific points on the timeline using video-editing software and are viewed as existing within the environment. Users are detached from the physical world and immersed in a multisensory experience within the pre-designed immersive environment. Thus, i-VR adapts traditional multimedia content and significantly raises the user's level of immersion, particularly at the level of visual perception in learning (Psotka, 1995).

Makransky and Petersen (2021) presented a model that illustrates how technological factors in i-VR result in the i-VR affordances of presence and agency. Presence and agency have

many forms which were considered for this project, including self-presence, social presence, instructional presence, and notions of agency such as the ability to pause on particular content or to revise content as needed. The affordances and resulting affective and cognitive factors were considered both in the design of the i-VR modules and in their relation to students' experience of learning in the immersive virtual environment to determine whether they resulted in effective learning outcomes.

Figure 1: CAMIL model proposed by Makransky and Petersen 2021
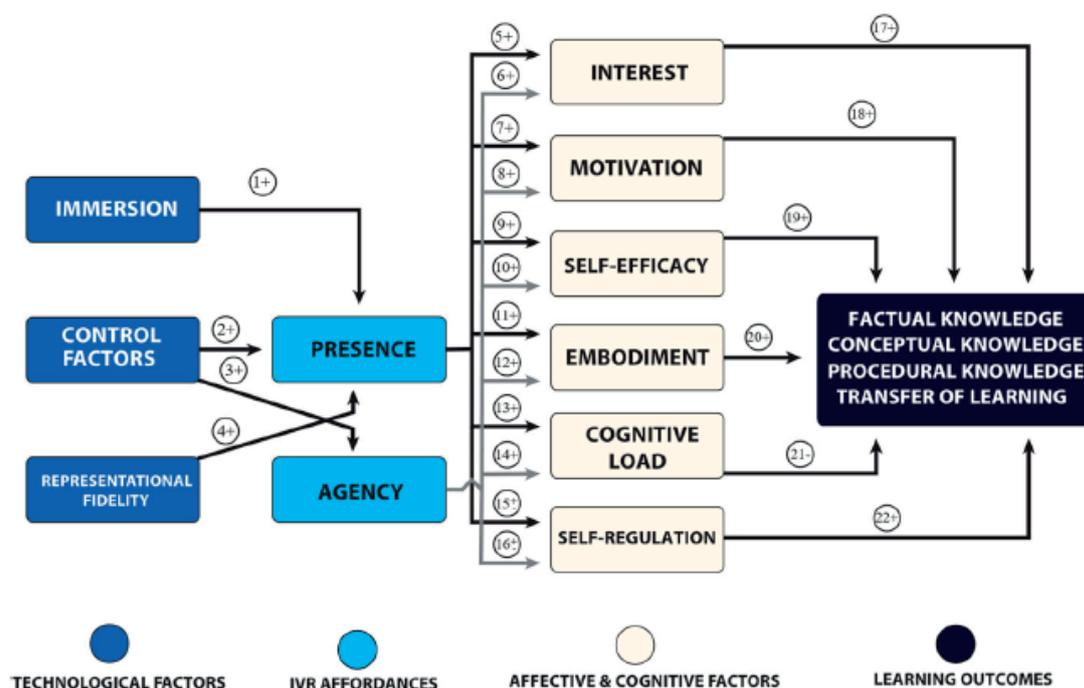
The project consisted of four developmental modules of 10 to 15 minutes of linear 360-degree video content with embedded multimodal inputs as scaffolded learning supports. The content was conceptualised from a current unit of work, from which Year 10 South Korean student participants were learning, entitled "Going Places" in which they were introduced to the language of travelling abroad. An artificial 'bot' was used to interact with participants, to guide their attention within the environment and to provide explanations and instruction as a teacher-facilitator. The setting within the modules occurred in two main locations: an outer space mission chamber and Port Lincoln in South Australia. Participants were teleported between locations through a virtual portal. Explanations of the mission and its associated tasks and language revision were provided in the mission chamber while the language modelling and learning occurred in the setting of Port

Lincoln where the mission was enacted and the task-based learning was initiated. Students progressed from a carpark to a marina where they boarded a boat and travelled to the coast of Langton Island to swim with sealions. Preparation for the snorkelling with sealions was given while aboard the boat.

Figure 2: Learning progression of the four i-VR learning modules

Indicators to the Direction of the Learning Progression Flow:

Module 1			
Students Virtual Location	Outer Space Mission Chamber	Outer Space Mission Chamber	Outer Space Mission Chamber
Learning Focus	Introduction to using i-VR learning equipment	Introduction to navigation in the i-VR learning environment	brief introduction to the "language mission"

Module 2			
Students Virtual Location	Outer Space Mission Chamber	Carpark and Marina	Outer Space Mission Chamber
Learning Focus	Detailed Introduction to the mission	Conversations about the tasks and explanations about the environment	Review of mission/task-based learning activities

Module 3			
Students Virtual Location	Outer Space Mission Chamber	Boat	Outer Space Mission Chamber
Learning Focus	Introduction to the mission	How to prepare for snorkelling	Review of mission/task-based learning activities

Module 4			
Students Virtual Location	Outer Space Mission Chamber	Boat and underwater off coast	Outer Space Mission Chamber
Learning Focus	Introduction to the mission	Explanation of Sealions and their habitat Snorkelling with Sealions	Celebration of completion of mission/task-based learning activities

The speed of speech within the environment was adjusted to 145 words per minute to suit the learners' listening ability, and a variety of standard English accents was used to ascertain their preferences for intelligibility.

Participants had a choice of four language tasks at the end of the expedition from which to record spoken output. Two involved the production of spoken procedural texts, one the production of a spoken personal recount of the experience within the virtual reality environment, and one the production of a spoken explanatory text about the habitat and lifestyle of sealions in the region based on input provided within the fourth module. The purpose of the spoken output was to determine what students were able to produce as a result of the modelled language learning within the i-VR environment.

Methodology
The project employed a multiple methods case study methodology to capture in-depth understandings of the experience of two classes of Year 10 English students in Seoul, South Korea and their teachers' perceptions of the experience (Cohen et al., 2018c). Participating students were invited to complete an online questionnaire and to record a spoken response to one of four tasks presented at the end of the i-VR learning modules. The two teachers were interviewed about the benefits they perceived of immersive virtual reality for developing spoken discourse competence through a new cultural experience that aimed to apply and extend relevant linguistic knowledge and competence from formal classroom learning.

Research Question:
In what ways and to what extent can the experience of highly immersive virtual reality English language learning modules improve the self-perceived speaking competence and confidence of Year 10 English language learners in an EFL setting?

Methods of data collection
Two English language teachers in secondary schools in Seoul with an interest in the project were recruited to participate along with their Year 10 English classes. The first class (Case Study 1 – learning beyond the classroom (LBC) participants) was given cardboard VR headsets that accommodate a mobile phone to take home to explore the four virtual reality modules that were developed by the project team. The second class (Case Study 2 – in-class participants) was provided with higher-quality plastic goggles that could accommodate a mobile phone to use in a teacher-facilitated formal classroom environment. Both groups

explored the four modules published on YouTube VR over a two-week period. Fifty students participated in Case Study 1 and 30 students participated in Case Study 2. Students were permitted to view and review the content as many times as they wanted, although the LBC cohort had fewer constraints than the in-class cohort who had limited access to and use of the VR goggles owned by the school.

Participating students were asked to complete a 27-question online survey. Questions included self-assessment of their spoken competence and confidence using English, their perceptions of the experience of using i-VR and their overall satisfaction with the experience of learning in the environment. On completion of the two-week immersive learning period, participating students were asked to anonymously submit to a secure online server, a voice recording of their spoken output from one of the four tasks presented at the end of the fourth i-VR module. After the two-week period, semi-structured interviews of up to 30 minutes with guiding questions were used for both teachers on Zoom about their perceptions of the challenges that South Korean students face in general with English language learning and, in particular, spoken communication in English, and their perceptions of what value or benefit immersive virtual reality offered, particularly with regard to the current project. Cohen et al. (2018) make clear that "the interview is a social, interpersonal encounter, not merely a data-collection exercise". The sequence of the interview was controlled whilst allowing space for spontaneity using the semi-guided structure. This allowed for greater complexity and depth (Cohen et al., 2018).

Methods of data analysis
Most of the responses in the online student survey were on a sliding scale from 0-100 and were analysed in SPSS using a range of non-parametric tests based on the relatively low participation rate. These numeric responses were further supported with text responses offering reasons for choices. The voice recordings of participating students in response to the tasks were compared to the learning models provided in the i-VR modules to understand what students were capable of producing as an outcome of the learning experience.

The two recorded teacher interviews were each transcribed by the interviewer after listening back to the recorded interview for a sense of the whole. Each transcript was then emailed to the

respective teacher to check for accuracy. Redundancies were removed and the transcripts were written as a narrative summary. The transcripts were then coded into themes for comparison and further analysis before a composite summary was produced based on identified themes. The synthesised transcripts reported the similarities and individual differences in relation to the emergent themes (Cohen et al., 2018b).

The evidence from all data sources for each case were corroborated to better understand each case and the outcomes of the project as a whole (Cohen et al., 2018a).

Findings

The key findings from the student questionnaires, the student voice recordings and the teacher interviews for both cohorts are reported in this section. The responses were mostly combined for both groups due to low statistical variation between the two groups. Thus, little to no variation existed in the findings between Case Study 1 and Case Study 2. For this reason, the data was combined for analysis and differences presented only as required.

Student Participant Background Information

Within the student questionnaires, questions from Q1 to Q3 were designed to investigate students' "English Learning Duration", "Exposure to English Listening" and "English Speaking Environment" to gain a better understanding of any differences in their English language learning circumstance prior to Year 10. The summary of findings is presented as follows:

Most students have been learning English from 3 to 10 years and commenced their learning of English either (a) from Reception to Year 5 or (b) from Year 5 to Year 8. Exposure to listening to English is spread evenly across different settings from the English classroom only to the school and beyond, with slight variations in preferences for the two cases. Both groups primarily speak English in the classroom, but the LBC group revealed a relatively stronger tendency to speak English after school compared to the in-class group.

Both groups self-assessed as having relatively low speaking abilities (Q4 – see figure 3 below) and relatively low confidence in speaking English when compared to their classmates (Q5 – see figure 4 below).

*Figure 3: Students' Self-Assessed English Speaking Competence*
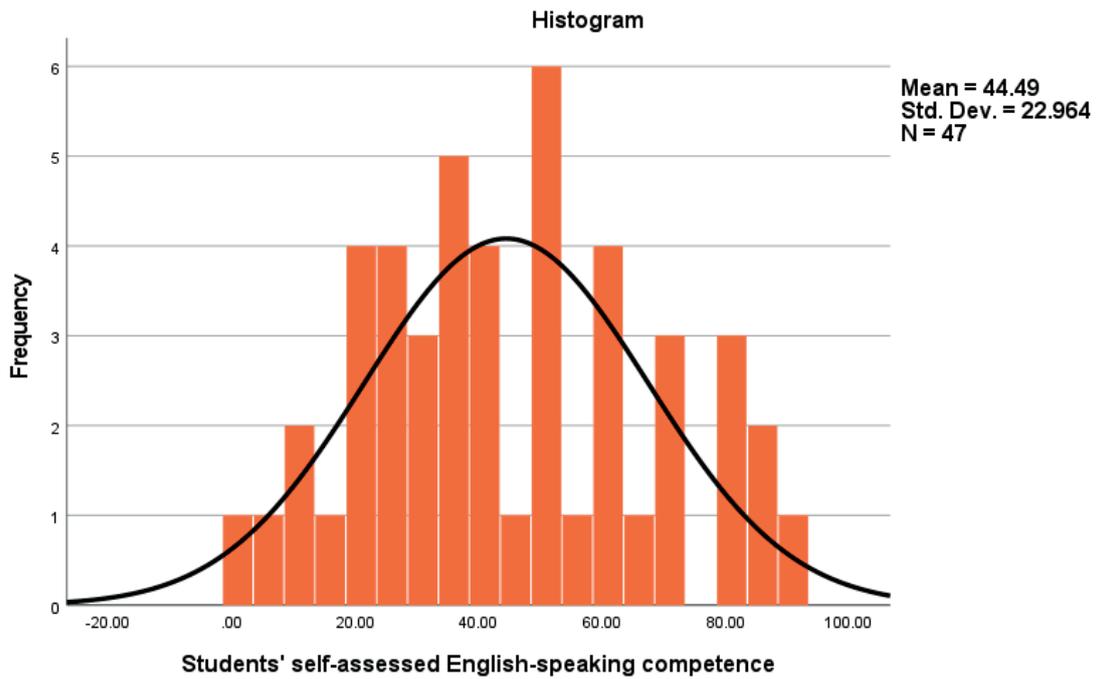
Figure 4: Students' Self-Perceived Confidence in Speaking English Compared with Classmates
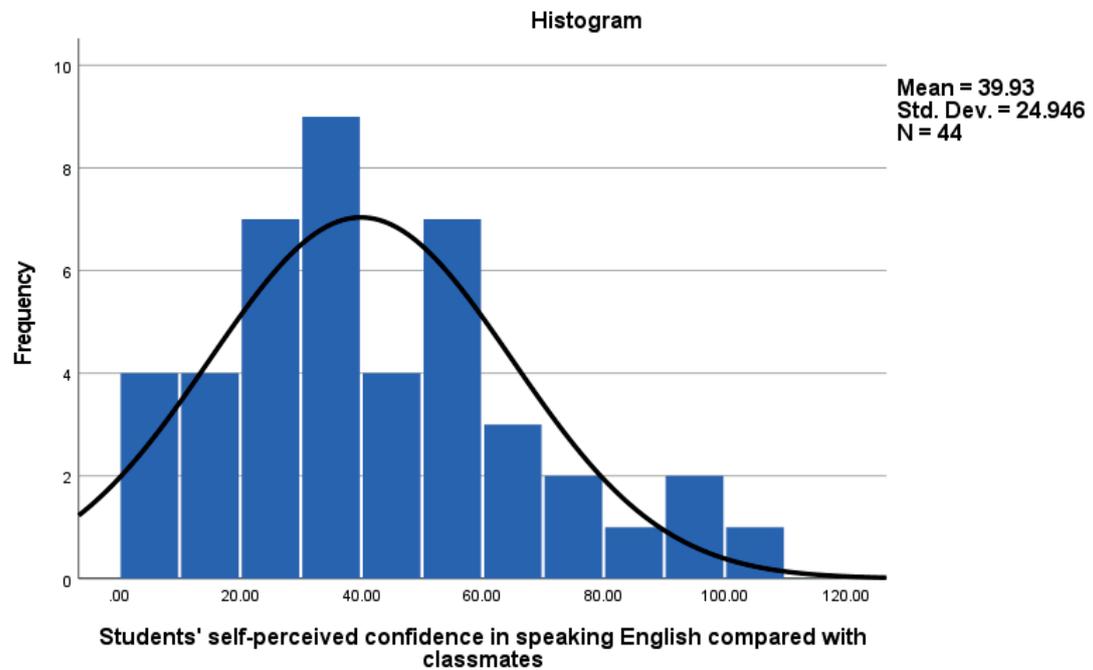
The examination of the results of the questionnaires primarily focussed on four key dependent variables to answer the research questions:

Q8.   The immersive virtual reality learning module in this project has **improved my confidence** in speaking English.

Q9.   The immersive virtual reality learning module in this project has **improved my competence** in speaking English.

Q12.   How much did you **enjoy the experience** of learning in the virtual reality learning module for this project?

Q23.   To what extent did the virtual reality learning experience **improve your listening comprehension** ability?

Non-parametric tests of correlation were used to determine the association between these outcome variables and 7 independent variables pertaining to specific aspects of the i-VR program:

- **Immersion:** Q14. How immersed did you feel in the environment? (immersion)

- **Physical presence:** Q15. To what extent did you feel the virtual environment was real to you?

- **Self-presence:** Q16. To what extent did you feel like you were snorkelling underwater with the sealions?

- **Social presence:** Q17. To what extent could you relate to Jarvis, the AI personal assistant?

- **Instructional presence:** Q18. To what extent did Jarvis support your learning in the environment?

- **Agency:** Q19. To what extent did you feel you had control over your learning in the environment by pausing and replaying sections of the video?

- **Cognitive load:** Q20. To what extent did you feel there was too much new learning in the environment?

All of these independent variables were strongly correlated which indicates they are measuring coherent aspects of the i-VR program:

Table 1: Correlations between Independent Variables

	Q14	**Q15**	**Q16**	**Q17**	**Q18**	**Q19**	**Q20**
Q14		0.462**	0.691**	0.497**	0.667**	0.731**	0.682**
Q15			0.647**	0.542**	0.547**	0.430**	0.383*
Q16				0.452**	0.667**	0.620**	0.617**
Q17					0.924**	0.628**	0.383*
Q18						0.738**	0.486**
Q19							0.547**
Q20							

In the analysis below, Somers' delta was used to determine the strength of association between each independent variable (IV) and dependent variable (DV) and whether the IV could be used to predict the DV score. Most are significant but some aspects of the program seem to be more important than others, depending on the outcome.

Q8. The immersive virtual reality learning module in this project has improved my confidence in speaking English

Figure 5: The immersive virtual learning module improved students' confidence in speaking English


Histogram

Mean = 37.29
Std. Dev. = 20.498
N = 45

The immersive virtual reality learning modules in this project has improved my confidence in speaking English
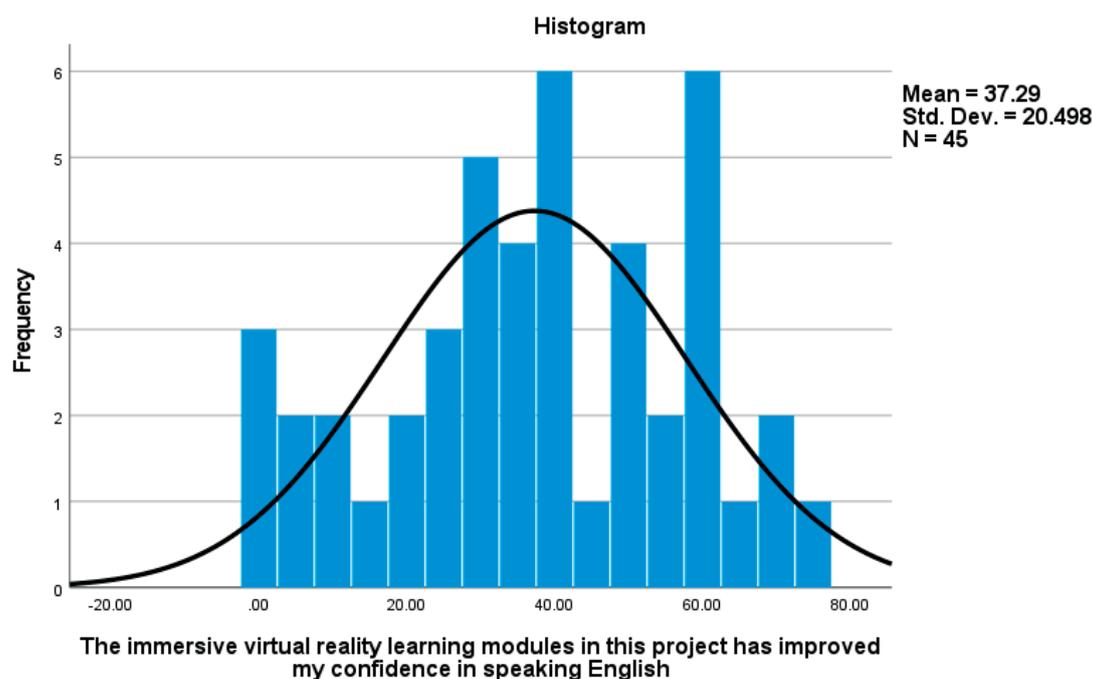
Table 2: Association between program components (IVs) and improved confidence (DV)

	Kendalls Tau-b	SE	Somers' d	SE	T^b	*Sig*
Q14: Immersion	0.398	0.096	0.397	0.095	4.155	**<0.001**
Q15: Physical Presence	0.291	0.108	0.291	0.108	2.694	**0.007**
Q16: Self-presence	0.330	0.114	0.330	0.114	2.886	**0.004**
Q17: Social presence	0.344	0.110	0.344	0.109	3.127	**0.002**
Q18: Instructional presence	0.412	0.111	0.412	0.111	3.711	**<0.001**
Q19: Agency	0.607	0.059	0.606	0.059	10.207	**<0.001**
Q20: Cognitive load	0.252	0.110	0.252	0.110	2.302	**0.021**

Student perceptions of how the virtual reality program improved their confidence in speaking English were associated with:

- Strongest predictors (p<0.001): Immersion, instructional presence, agency

- Moderate predictors (p<0.01): Physical presence, self-presence, social presence

- Weak predictors (p<0.05): Cognitive load

Q9. The immersive virtual reality learning module in this project has improved my competence in speaking English

*Figure 6: The immersive virtual learning module improved students' competence in speaking English*
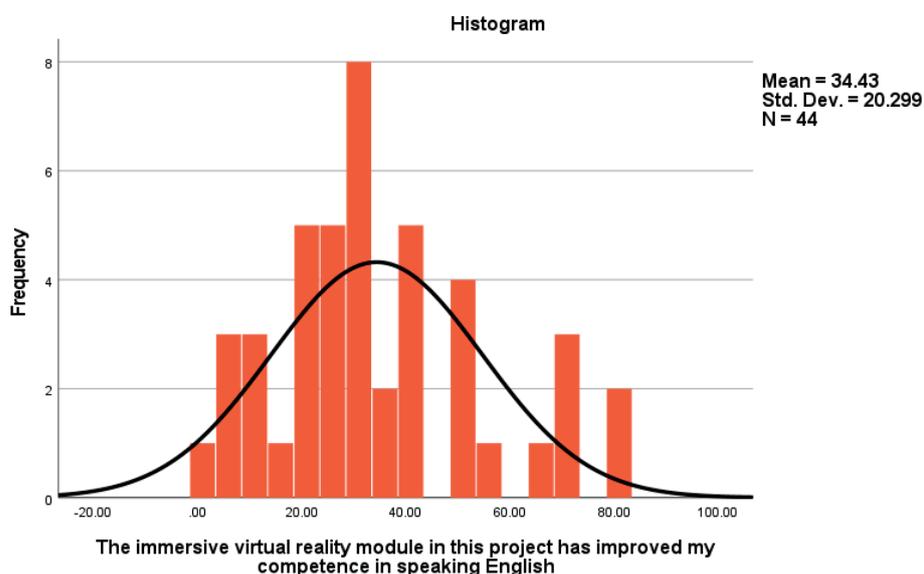
Table 3: Association between program components (IVs) and improved competence (DV)

	Kendalls Tau-b	SE	Somers' d	SE	Tᵇ	*Sig*
Q14: Immersion	0.361	0.082	0.364	0.082	4.383	**<0.001**
Q15: Physical Presence	0.180	0.117	0.180	0.117	1.535	**NS**
Q16: Self-presence	0.141	0.113	0.142	0.113	1.248	**NS**
Q17: Social presence	0.346	0.131	0.347	0.131	2.634	**0.008**
Q18: Instructional presence	0.312	0.125	0.314	0.126	2.486	**0.013**
Q19: Agency	0.535	0.083	0.537	0.084	6.373	**<0.001**
Q20: Cognitive load	0.309	0.099	0.312	0.099	3.140	**0.002**

Student perceptions of how the virtual reality program improved their confidence in speaking English were associated with:

- Strongest predictors (p<0.001): Immersion, agency
- Moderate predictors (p<0.01): Social presence, cognitive load
- Weak predictors (p<0.05): Instructional presence

Q12. How much did you enjoy the experience of learning in the virtual reality learning module for this project?

Figure 7: The immersive virtual learning module contributed towards students' enjoyment of learning


Histogram

Mean = 47.07
Std. Dev. = 25.669
N = 46

How much did you enjoy the experience of learning in the virtural reality learning modules for this project?
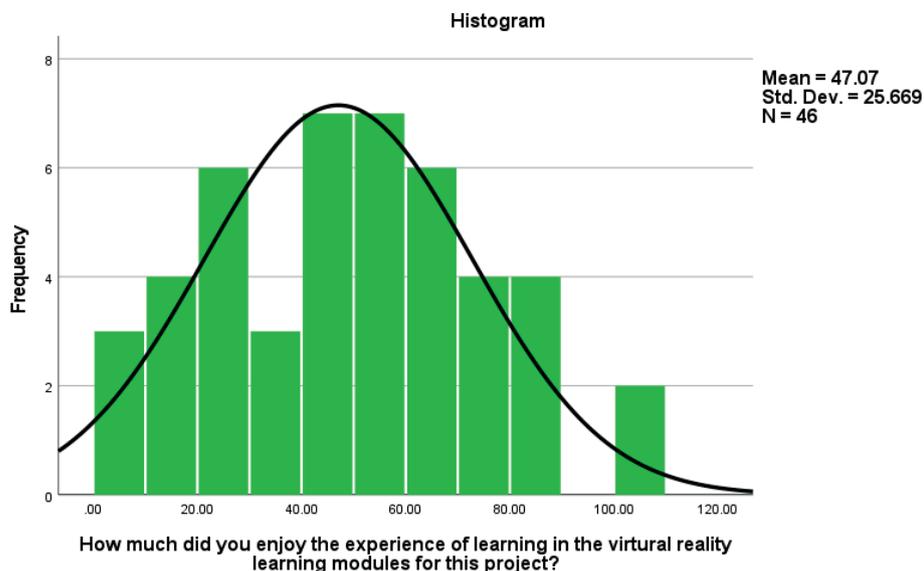
Table 4: Association between program components (IVs) and students'
enjoyment (DV)

	Kendalls Tau-b	SE	Somers' d	SE	T[b]	*Sig*
Q14: Immersion	0.675	0.056	0.679	0.056	12.069	**<0.001**
Q15: Physical Presence	0.369	0.112	0.370	0.112	3.317	**<0.001**
Q16: Self-presence	0.476	0.095	0.476	0.096	4.972	**<0.001**
Q17: Social presence	0.397	0.111	0.398	0.112	3.542	**<0.001**
Q18: Instructional presence	0.493	0.093	0.494	0.093	5.305	**<0.001**
Q19: Agency	0.532	0.091	0.532	0.091	5.798	**<0.001**
Q20: Cognitive load	0.551	0.078	0.554	0.078	7.092	**<0.001**

Student enjoyment of the learning experience provided by the virtual reality program were associated with:

- Strongest predictors ($p<0.001$): Immersion, physical presence, self-presence, social presence, instructional presence, agency, cognitive load

Q23. To what extent did the virtual reality learning experience improve
your listening comprehension ability?

Figure 8: The immersive virtual learning module improved students'
listening comprehension

Mean = 37.98
Std. Dev. = 20.274
N = 46

To what extend did the virtural reality learning experience improve your listening comprehension ability?
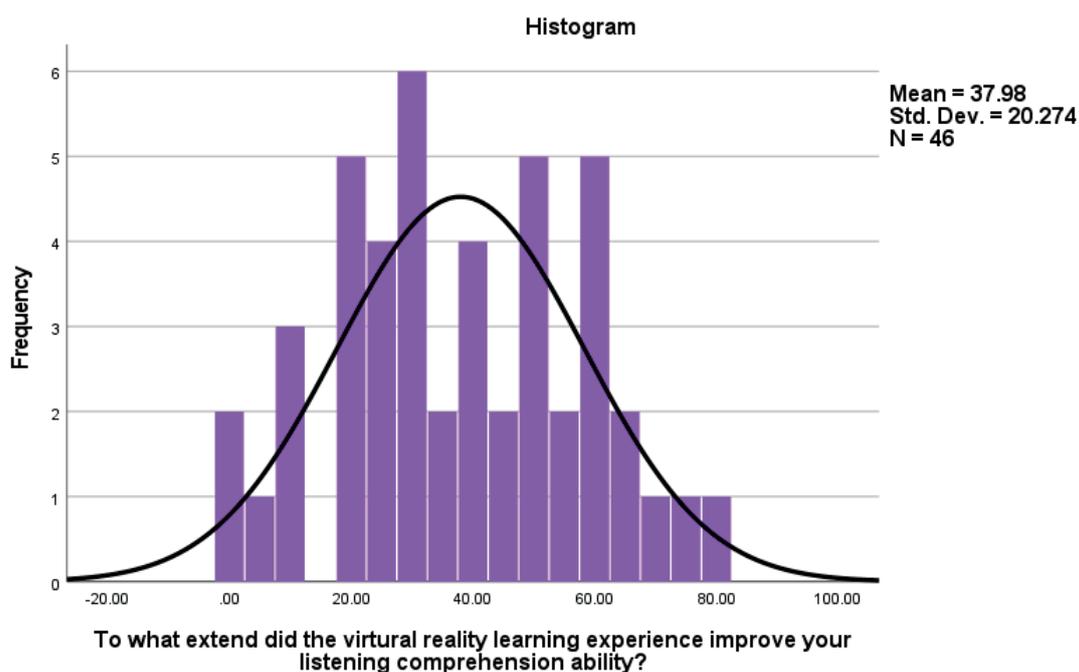
Table 5: Association between program components (IVs) and listening comprehension (DV)

	Kendalls Tau-b	SE	Somers' d	SE	T^b	*Sig*
Q14: Immersion	0.506	0.070	0.508	0.070	7.146	**<0.001**
Q15: Physical Presence	0.266	0.119	0.267	0.119	2.241	**0.025**
Q16: Self-presence	0.367	0.099	0.367	0.098	3.704	**<0.001**
Q17: Social presence	0.519	0.091	0.520	0.092	5.670	**<0.001**
Q18: Instructional presence	0.640	0.084	0.640	0.084	7.555	**<0.001**
Q19: Agency	0.695	0.045	0.695	0.045	15.123	**<0.001**
Q20: Cognitive load	0.478	0.102	0.480	0.102	4.693	**<0.001**

Student perceptions of how the virtual reality program improved their listening comprehension ability were associated with:

- Strongest predictors (p<0.001): Immersion, self-presence, social presence, instructional presence, agency, cognitive load

- Weak predictors (p<0.05): Physical presence

The results demonstrate that, although students have been learning English for some time and many have exposure to English beyond the classroom environment, they still perceive a lack of confidence and competence in their spoken English. Elements of the design in the i-VR modules and the i-VR environment itself were reported to improve confidence and competence in speaking English and their listening comprehension, as well as their learning satisfaction. The next section analyses their spoken outputs as a result of learning in the i-VR environment.

Recorded Task-based Spoken Outputs
Tasks
Most of the students in the in-class group responded to the four tasks presented to the students at the end of the i-VR modules to produce a spoken text modelled on those provided within the i-VR environment with most consisting of more than one clause and, in some, cases, more than one genre. In contrast, few students in the LBC group produced a spoken recording and produced only one clause at most, with the exception of one

student who produced several clauses in a coherent response. It can be assumed that students require the structure of the classroom environment and the direction of a teacher to ensure that students actively participate in learning and produce the required outcomes of learning when using such i-VR technologies.

Teacher Interviews
Teacher A (Case Study 1) supplied cardboard goggles provided by the research team to her class of Year 10 English language students to view at home while Teacher B (Case Study 2) used school-supplied plastic goggles to view the modules within classroom lessons. The following reports the perceptions of the two teachers of the value of such technologies in addressing some of the challenges of EFL classroom learning.

Challenges to developing communicative competence in English in South Korea
Both teachers A and B made it clear that South Korea is not an English-speaking country, so few opportunities exist to speak English outside of the classroom. Also, little opportunity is provided in school for interaction in English due to the time constraints caused by the pressure of passing exams. Therefore, students do not see English as a tool for communication. Rather, students see English as a subject with a focus on test preparations. In English tests held in South Korea, students are mainly tested on grammatical knowledge regarding sentential structures in written form. This also leads to the focus of classroom English learning remaining at the sentential level of grammatical knowledge acquisition. Teacher A stated that when students take a speaking test, they memorize the content and then recall it from memory in a very unnatural way. Teacher B suggested that the most challenging aspect of speaking for English language learners in South Korea was transitioning from mere memorisation of sentence patterns and formulas to producing more complex factual or explanatory texts without the need for rote memorisation. According to Teacher B, his English students often encountered this as a linguistic enigma, positioned somewhere between grammar and spoken language. He did not believe that they faced significant difficulties in acquiring English communicative functions through formulas and expressions, as they could memorize and apply them appropriately in various contexts. However, as an educator, he acknowledged the need to address

the afore-mentioned concern for his students. While he possessed the linguistic knowledge to do so, he expressed that integrating such concepts pedagogically into teaching materials proved to be extremely challenging.

Noticeably, Teacher B emphasized that the comparatively boring and artificial English learning resources in English textbooks have become the greatest hindrance for students to learn English well. Teacher B further pointed out that to make learning English more interesting and fun, students have been actively seeking for more authentic and more realistic English learning resources such as YouTube English learning channels. Meanwhile, Teacher A also commented that the influential factors such as "fun" and "authenticity" are crucial in engaging students' learning and encouraging the formation of natural conversations.

In summary, both teachers believe that the time constraints, boring English textbook content and those overly artificial and unnatural language learning scenarios that textbooks could currently provide are the biggest impediments for Korean students to develop their communicative competence.

The benefits of teaching and learning through i-VR modules
Both teachers A and B recognised that learning English through i-VR modules is a beneficial, valuable and fun learning experience due to the opportunities provided by i-VR modules that expose EFL learners to more natural and authentic English conversations and environments than otherwise possible. While Teacher A skipped the spaceship scenes in the project modules and only viewed the parts that she was interested in at home with cardboard VR goggles and predicted that her students would do the same, Teacher B not only enjoyed the i-VR modules himself with better quality plastic VR goggles but also trialled the higher quality goggles with his students. According to Teacher B's observation, his students showed communicative intent while they were watching the i-VR modules. He further suggested that another important advantage of using i-VR in teaching is that immersive VR environments could embed an instructional or pedagogical design that would be difficult to replicate in real-world immersive experiences such as the English-speaking Village near Seoul. For Teacher B, even TV shows or movies do not provide a pedagogical structure for learning language. Thus, he firmly believes that i-VR could provide educators with more opportunities for improving

students' learning and teachers' teaching practices in a more realistic language acquisition context than a classroom setting and textbook can provide.

The challenges of teaching and learning through i-VR modules
Both Teachers A and B thought i-VR has a place in English language learning in South Korea especially in enhancing and extending learning from textbook learning, but Korean smartphones are generally too large for the cardboard goggles which caused a reduction in the quality of the learning experience for students of Teacher A. Whereas the students of Teacher B, who made use of the plastic goggles, did not experience any such problems.

Additionally, Teacher A reported that some of her students who were more advanced than other classmates found the progression of the i-VR modules a little slow and therefore became impatient and moved through the content rather quickly. On the contrary, Teacher B pointed out that the progression of the i-VR modules and the speaking speed of the "personal learning assistant Jarvis" were too fast for some of his lower-level students.

Future development recommendations for i-VR modules
Both teachers A and B implied that the learning quality would be improved if the i-VR modules could be more adaptable towards students' different English levels. Moreover, both teachers agree that if technology allows a real-time interactional conversation between students and the learning facilitator embedded in i-VR learning environments, it would increase the level of realism and authenticity of communicative interactions even more. Furthermore, both teachers agreed that instead of the robotic voice, using a clearer voice for Jarvis would be better. Additionally, they think the rhythm of intensive learning and relaxed learning is very important; for instance, they suggested that the more relaxed learning sections such as swimming with sealions be increased, such as swimming with sealions. Finally, Teacher B suggested that if students were instructed to use earphones or headphones while watching the i-VR modules, the learning experience would be better. Because the learning task was conducted in the classroom settings for students of Teacher B, the sound from other students could be a distracting noise for other students.

Discussion
The project aimed to extend and enhance learning from the relatively static and decontextualised content of a language textbook in a formal classroom setting into the dynamic, explorative and entertaining immersive learning space of a virtual world. This small-scale study has revealed the importance of several considerations in providing a beneficial experience for language learners in such an immersive virtual reality environment. that Overall, student enjoyment of the learning experience provided by the virtual reality program were strongly associated with all of the features of immersion, physical presence, self-presence, social presence, instructional presence, agency, and cognitive load. Student perceptions of how the virtual reality program improved their confidence in speaking English were strongly associated with immersion, instructional presence, and agency. Similarly, student perceptions of how the virtual reality program improved their competence in speaking English were strongly associated with immersion and agency and to a much lower extent, instructional presence. Student perceptions of how the virtual reality program improved their listening comprehension ability were strongly associated with immersion, self-presence, and social presence. Most students preferred to listen to an American accent and were able to produce a few short, fluent, largely coherent and comprehensible clauses as a spoken response to the tasks based on their learning in the immersive virtual reality modules. The teachers agreed that the immersive virtual reality environment had some value when integrated with textbook and classroom learning to extend and enhance that learning to build communicative competence and confidence in spoken English. However, they offered some recommendations for further improvement concerning the nature and delivery of the module content as well as in the equipment used so that a more interactive and immersive experience could be provided.

Immersion for communicative competence development
An immersive environment provides a context for learners to experience language and culture for purposeful communication in situational context (Peixoto et al., 2021; Savignon, 1987). Teacher A acknowledged the entertainment value of the i-VR modules as an enjoyable experience and reported that her students were only interested in swimming with the sealions in the fourth module without having to go through the pre-learning

process. This enforces the notion that without a pedagogical structure as in the formal classroom setting informed by the textbook, context can only be experienced and not learned (Blyth, 2018). Teacher B acknowledged that the immersive virtual reality environment was capable of embedding an instructional design to transform experience into purposeful learning. This has not only been shown to be beneficial for communicative competence development but also for cognitive development by embodying cognition within a real-world environment with scaffolded multimodal learning resources (Kramsch, 2004). In i-VR, learners are presented with dynamic situational encounters in real-world contexts beyond the comparatively static nature of textbook learning in the relatively de-contextualised environment of the formal classroom setting.

I-VR, Enjoyment and Motivation

Motivation is necessary for successful learning (Lamb, 2017). Students in both cohorts reported that all elements of the virtual reality environment were enjoyable. Norton (2014) regards motivation as a form of investment in language learning that requires time and effort for a future reward. In the case of language learning in a school setting, students must invest for imagined long-term benefits. Students are motivated when they can imagine future opportunities and communities that will offer social, symbolic and capital rewards as students enter a future workforce (Norton, 2014). Immersive virtual reality has the potential to bring those imagined futures and communities into the present reality of classroom learning through highly immersive virtual reality encounters with embedded pedagogical design and supports. Immersive virtual reality has the potential for exposure to a range of accents and varieties of English that can be used as authentic models of intercultural communication for spoken communicative competence development for countries such as South Korea. i-VR extends beyond the limited resources of the English language classroom to enable new possibilities for learning and communication.

An additional motivational factor was that the i-VR environment created cultural interest in the lifestyles of people in a different country while conforming to the topic or theme of the classroom textbook in an immersive, tangible, and embodied way. The textbook unit in question was on travelling abroad. Korean students who would not have the opportunity to board a boat to swim with sealions were able to do so virtually in South Australia.

Experiences that are not readily available to young people in Korea but quite possible to most young people who live in another country can be captured on 360-degree video so that Korean students can enjoy the experience in creative and imaginative ways without travelling abroad (Peixoto et al., 2021). Such experiences can motivate interest in future travel and 'entextualise' language learning to a local community of people enjoying a particular lifestyle activity (Blyth, 2018). As reported in many of the students' spoken outputs, they wanted to visit Australia in the future and swim with sealions for real.

Instructional Design for Immersion and Agency
The students reported improvements in both their spoken confidence and competence through exposure to authentic models of communication and scaffolded learning within the i-VR environment which personalised learning for them in a relatively safe space. The procedural genre was modelled most and provided the easiest structure for students to produce themselves. As reported by Teacher B, students tend to rely on memorisation and cannot connect grammatical structures and ideas themselves to produce more complex factual texts. This accounts for why most students produced a procedural text or a personal recount of their experience of swimming with sealions rather than explaining the lifestyle and habitats of sealions as presented in the fourth module.

Both teachers commented that having too much content and too many inputs tended to be overwhelming and created cognitive overload for lower-level students of English, while slowing the pace of progress through the modules with the use of scaffolded processes and high-level revision tended to be unnecessary for the more advanced students of English. The teachers agreed that differentiated learning within the platform was needed so that different pathways and learning outcomes were possible for different levels of learner. This requires an instructional design within the i-VR modules that allows different options and pathways or the ability to speed up, slow down or skip content. To a limited extent, the four i-VR modules in the current project had the capacity to achieve this.

Authentic and Interactive Communication
Additionally, the teachers would have liked a more authentic communicative experience with interactive capabilities for their students, as is possible in immersive study abroad experiences

(Wang et al., 2022). This is currently possible with high-end i-VR platforms and equipment but is not yet affordable for the average school. Such web-based solutions can connect learners across the globe for immersive collaborative school-based interactions but, in the meantime, low-cost solutions as used in the current project have a valid place in the overall language learning process in support of classroom-based language learning (Berti et al., 2020; Parmaxi, 2020).

Regulation, Autonomy, and the Role of the Classroom Teacher
LBC has been shown to offer learners motivation and autonomy (Reinders et al., 2022). The initial aim of the project was to provide a self-regulated experience that extended beyond the formal classroom setting and enhanced learning from the textbook by immersing students in a relevant lifestyle setting in another country. A virtual instructional guide and a linear scaffolded progression of learning with multimodal resources as language inputs were thought to be sufficient to assist learners in a self-regulated experience (Adnan et al., 2020; Divekar et al., 2018; Liang-Yi, 2011). However, perhaps due to cultural notions of learning, few of the LBC cohort produced the requested outcomes without the support of the formal structured guidance of the classroom setting to support and regulate their learning. The participation of the classroom-based cohort with the guidance and facilitation of the classroom teacher to complete the modules and the required tasks suggests that the classroom teacher plays a vital role in supporting learning in autonomous virtual environments such as these and that self-regulation may be insufficient to produce the anticipated learning outcomes. The findings revealed that the teacher must still play an important facilitative and guiding role in the use of i-VR to achieve the anticipated outcomes. This places the teacher as the overall director and convenor of the learning process in and beyond the classroom to facilitate a purposeful and cohesive approach to language learning (Lai et al., 2015; Yuan, 2022). Students experienced some autonomy and control in the i-VR modules as they were able to skip, pause, rewind or fast-forward sections as necessary to meet their own learning requirements.

Conclusion
The teachers considered the project to be beneficial in that it provided a low-cost immersive cultural experience that extended

from classroom learning from the assigned textbook and offered a motivating, entertaining space to learn English in a scaffolded fashion. Students also reported a high level of satisfaction with the experience, whether in-class supported by the English language teacher or learning beyond the classroom setting in the home environment. The quality of the VR headsets, even if low-cost, is an important consideration in providing an immersive experience and quality noise-cancelling headsets are recommended in a classroom setting where many students are using the VR goggles at the same time. The amount of input from an instructional guide and the focus of the experiential learning need to be carefully considered with the teachers recommending authentic conversations with human interactants and human virtual guides, and with sufficient silent periods between interactions for learners to digest content. The type, nature and frequency of multimodal inputs also requires careful consideration. For regulation of learning, it is recommended that a classroom teacher direct and facilitate learning and support task-based production in the form of spoken texts. This may require a closer collaboration between the instructional designers and the classroom teacher for a tailored experience.

Higher end solutions are available that provide opportunities for more enriched interactive experiences where target language speakers and a teacher can be available within the environment to learners; however, this requires an on-going subscription to an online virtual reality platform, often using the Unity or Unreal engines, and expensive dedicated head-mounted displays (HMDs), which is not feasible to most schools or teachers compared to the perceived benefits. Low-cost solutions of the kind used in this small-scale project require only developmental costs, which could be covered by training teachers in how to construct the environments themselves or to employ an instructional/curriculum designer of the environments within a school or regional setting.

Students could also be involved in the capture and editing of suitable 360-degree videos for immersive experiences with classmates for communicative purposes. The advent of generative artificial intelligence technologies has the potential to support the development of such technological resource development and provide efficiencies. In any case, teachers should be trained and experienced in the possibilities and use of a variety of such technologies for use in LBC or formal classroom settings in order to best support and direct students in their use. In many instances,

such technologies complement classroom practices and resources in the overall language learning process, maximising opportunities and minimising disadvantage.

The project contributes to a more holistic process of learning within and beyond the classroom, managed and facilitated by the classroom teacher. This holistic process has the potential to transforms learning into immersive cultural experiences beyond the classroom setting in which the linguistic knowledge and competence developed through textbook learning in classrooms is applied to immersive situational settings. Multi-sensory semiotic resources embedded in the i-VR environment scaffold learning to develop confidence and competence in spoken discourse and potentially in intercultural communication. Further research could focus on the higher-end potential of i-VR or on addressing some of the issues identified in this paper with low-cost solutions. More thorough testing and possible refinement of the CAMIL model for the design of i-VR environments for language learning is also recommended.

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Appendix 1: Online Student Questionnaire
Online Survey for Student Participants
By completing and submitting this questionnaire, you are indicating that you have read and understood the Participant Information Sheet and give your consent to be involved in the research.

Q1. How long have you been learning English?
❏ Less than 3 years   ❏ 3-5 years   ❏ 6-10 years
❏ more than 10 years

Q2. Where do you hear English spoken?
❏ mostly in the English classroom   ❏ mostly at school
❏ at school and sometimes after school   ❏ mostly after school

Q3. Where do you speak in English?
❏ mostly in the English classroom   ❏ mostly at school
❏ at school and sometimes after school   ❏ mostly after school

Q4. I speak English in:
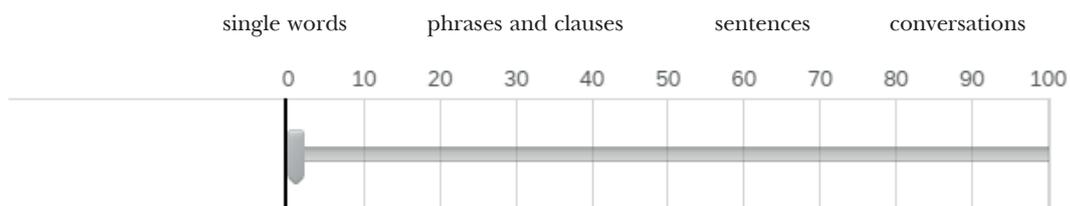
Q5. Compared to your classmates, how confident are you in speaking English?
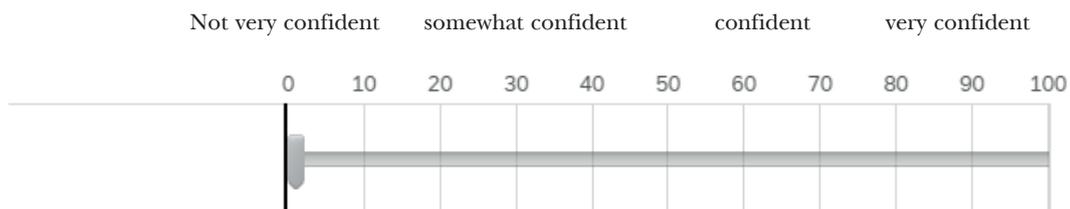
Q6. Why do you learn English? (to test the "motivation" factor, intrinsic motivation and integrative orientation Vs extrinsic motivation and instrumental orientation)

pass the exams | pass the exams and maybe to communicate with people from English speaking countries | I love learning English and I would love to work or live in an English-speaking country

| 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
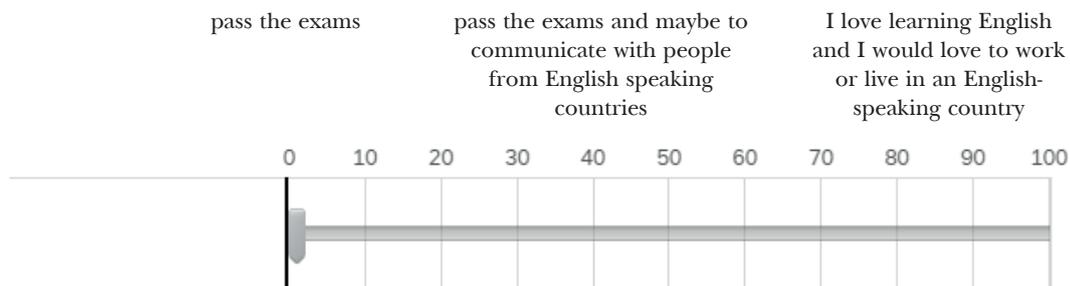
Q7a. Have you experienced any other Virtual Reality activities (i.e., VR games, VR tours or VR movies etc.) before participating this research? And when? (To test students' previous knowledge towards VR technology and to test students' preference towards the psychological affordances that IVR provides)

❏ Yes, just recently ❏ Yes, more than one year ago
❏ Yes, more than two years ❏ No, I never had any VR experience before participating this project

Q7b. If yes above, how much did you enjoy the latest VR experience before participating in this project?
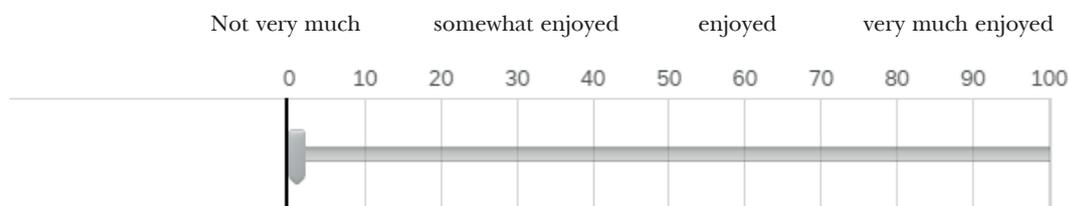
Not very much | somewhat enjoyed | enjoyed | very much enjoyed

| 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

Why? [   ]

*Q8. The immersive virtual reality learning module in this project has improved my **confidence** in speaking English:*

Not very much | somewhat enjoyed | enjoyed | very much enjoyed

| 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |

Q9. The immersive virtual reality learning module in this project has improved my **competence** *in speaking English:*

Not very much   somewhat enjoyed   enjoyed   very much enjoyed

0   10   20   30   40   50   60   70   80   90   100
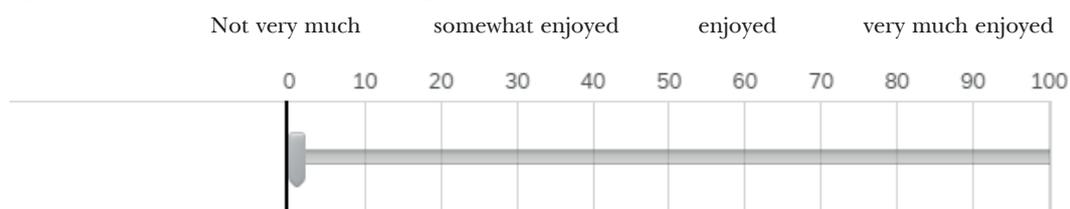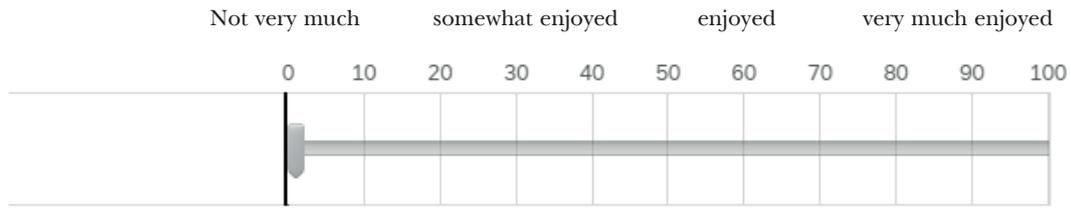
Q10a. Have you tried to complete the final two tasks (i.e. Describe what you have experienced during this trip; Explain why sealions like to live near Langton Island) from the VR learning videos?

❏ Yes   ❏ No

Q10b. If you have, how well do you think you have completed them?

poorly   okay   reasonably good   very good

0   10   20   30   40   50   60   70   80   90   100
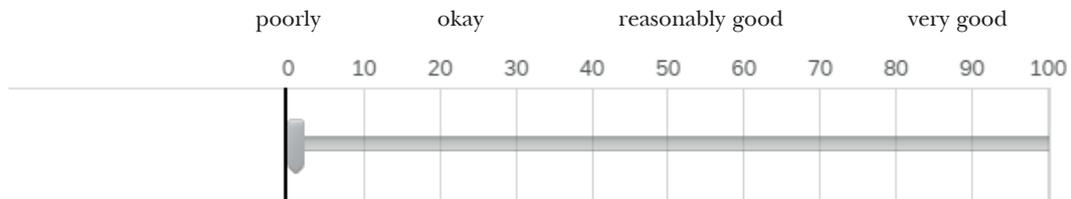
Q11. Which element(s) of the immersive virtual reality learning module were most helpful in improving your English? (please prioritise – rank item by dragging it up or down)

❏ Jarvis AI personal assistant
❏ Text panels
❏ Video clips
❏ People talking
❏ Korean translation assistance

Q12. How much did you enjoy the experience of learning in the virtual reality learning module for this project?

Not very much   somewhat enjoyed   enjoyed   very much enjoyed

0   10   20   30   40   50   60   70   80   90   100
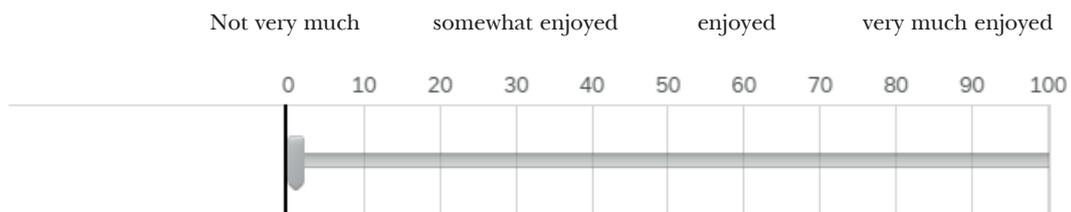
Why?

Q13. Which element(s) of the immersive virtual reality learning module did you like most? (please prioritise – rank item by dragging it up or down)

❏ Jarvis AI personal assistant
❏ Text panels
❏ Video clips
❏ People talking
❏ Scenery

Q14. How immersed did you feel in the environment? (immersion)

Not very much   somewhat immersed   quite immersed   extremely immersed

0   10   20   30   40   50   60   70   80   90   100
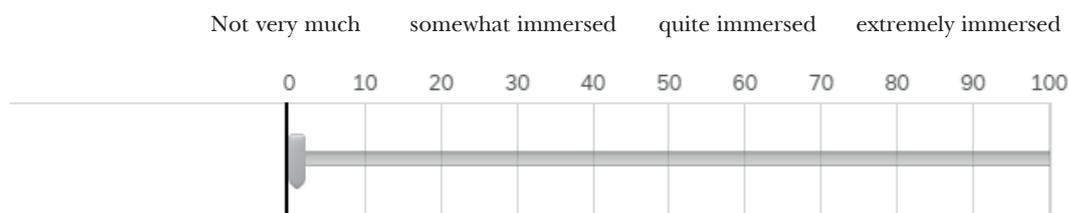
Q15. To what extent did you feel the virtual environment was real to you? (physical presence)

Not very real   somewhat real   quite real   extremely real

0   10   20   30   40   50   60   70   80   90   100
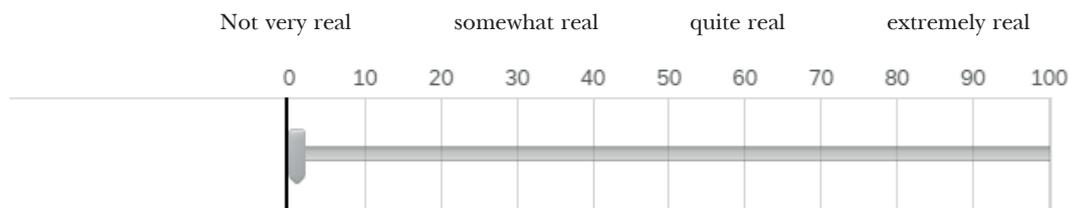
*Q16. To what extent did you feel like you were snorkelling underwater with the sealions? (self-presence or embodiment)*

Not very much   a little   very much   extremely so

0   10   20   30   40   50   60   70   80   90   100
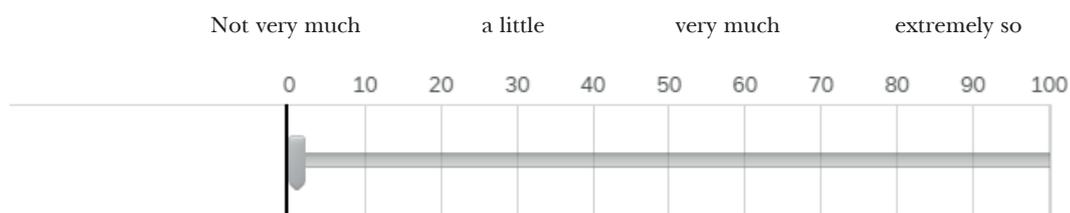
Q17. To what extent could you relate to Jarvis, the AI personal assistant? (social presence)

Not very much   somewhat   very much   extremely
connected   connected   connected   connected

0   10   20   30   40   50   60   70   80   90   100
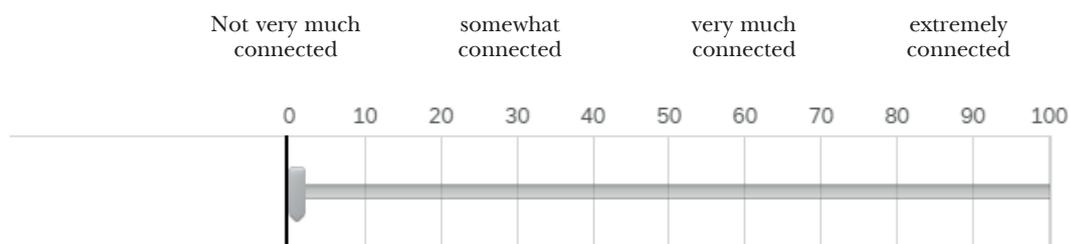
Q18. To what extent did Jarvis support your learning in the environment? (instructional presence)
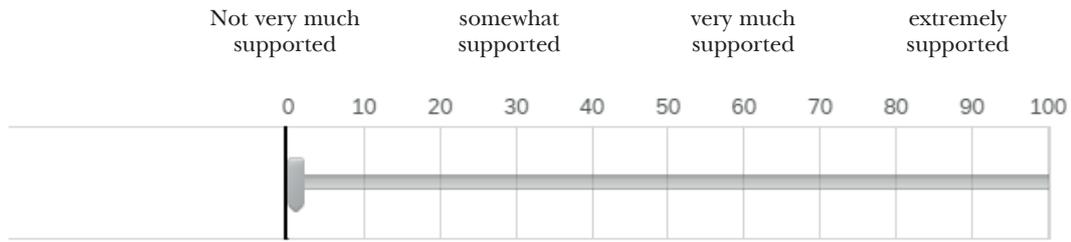
Not very much supported	somewhat supported	very much supported	extremely supported

Q19. To what extent did you feel you had control over your learning in the environment by pausing and replaying sections of the video? (agency/self-efficacy/self-regulation)

Not very much	some control	good control	high level of control
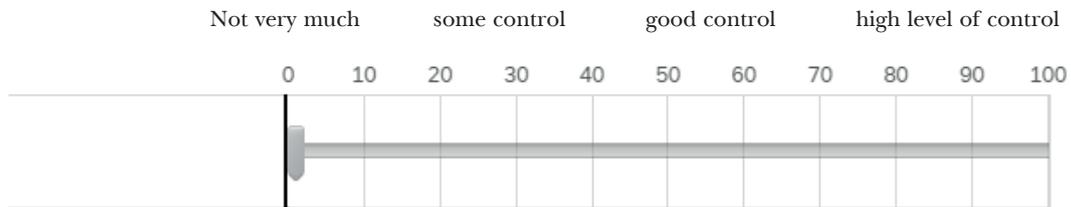
Q20. To what extent did you feel there was too much new learning in the environment? (cognitive load)

Not very much	some new content	a lot of new content	too much new content
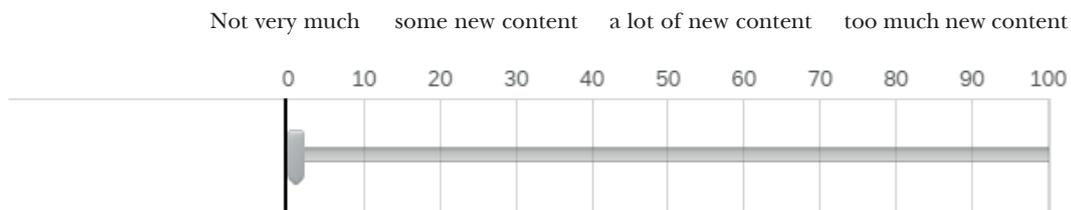
Q21. To what extent was the environment and its content different to what you are used to?

	No difference	Somewhat different	Different	Very different	Extremely different
Vocabulary	o	o	o	o	o
Grammar	o	o	o	o	o
Accent	o	o	o	o	o
Speed of talking	o	o	o	o	o
Lifestyles	o	o	o	o	o

Q22. What did you like most about the immersive virtual reality learning experience?

Why?

Q23. To what extent did the virtual reality learning experience improve your listening comprehension ability?

| Not very much | somewhat improved | improved | very much improved |

| 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
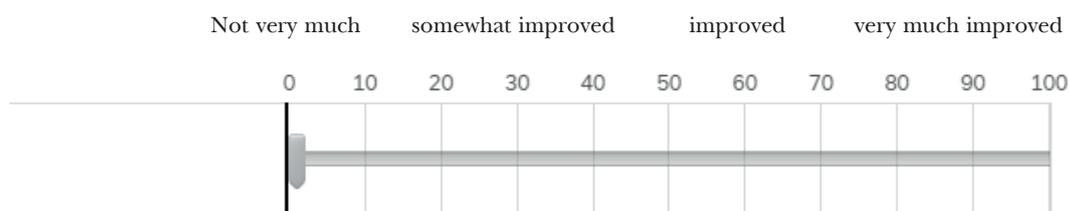
Q24. Were the accents used in the VR environment comprehensible to you?

❏ Yes   ❏ No

If not, why not? [   ]

Q25. What standard of English accent do you prefer?

❏ *British English*   ❏ *US English*   ❏ *Australian English*

Why? [   ]

Q26. Do you think it is helpful to hear a variety of English accents?

❏ Yes   ❏ No

If not, why not? [   ]

Q27. Overall, do you think the virtual learning experience can support your English language speaking ability?

❏ Yes   ❏ No

If so, how? [   ]
If not, why not? [   ]

Appendix 2: Tasks, Modelled Texts, and Speaking Samples
The tasks presented at the end of the i-VR learning modules were:

Task 1
Learn how to go to the snorkelling location (**procedural text**)

Task 2

Learn how to put on snorkelling gear **(procedural text)**

Task 3

Explain why sealions like to live near Langton Island **(Explanatory Text)**

Task 4

Describe your experience during this trip **(Personal Recount)**

The procedural tasks as presented in the i-VR modules are as follows:

Task 1 Learn how to go to the snorkelling location (procedural text)
First, we need to follow the map and walk to the Marina.

Then, we need to "board" the boat and sail as close as possible to Langton Island.

After that, we have to take a tender to the coast of Langton Island area. (And that is where we can experience snorkelling and swim with sealions)

Task 2 Learn how to put on snorkelling gear (procedural text)
First of all, you need to wear a snorkel mask which fits on your face like this.

Then you need to attach the snorkel to your snorkel mask like this.

After that, you need to put on a pair of snorkel fins that fit your feet size like this.

Finally, if the weather is cool or cold, you need to wear a snorkelling wetsuit to keep yourself warm.

Colour coding for Analysis of Student Voice Recordings

Explaining procedures :

- how to get to the snorkelling location
- how to prepare for snorkelling

Explaining the habitat and lifestyle of sealions (informed by an embedded video in module 4)

Recounting experience (of snorkelling with sealions in i-VR)

Sample Recordings of Student Responses to the Tasks

Out-of-class group (7 responses)
Using own syntax – not emulated from the immersive virtual environment

1: All you need to prepare for snorkelling is a suit, flippers and mask equipment.

Brief – not providing any detail

2: We need to prepare snorkelling equipment in advance.

Realism of the experience of VR

3: When I look at the VR made me think that I am actually swimming. I felt as if I floating.

7: It was not realistic but it was good and cute because the seal was expressed well.

Interesting experience – hope that all will be able to share in future

4: Obviously it was an interesting experience to meet many animals within the sea of Australia far away and I hope that students will able to experience this in school classes in the future.

Enjoyable experience

5: The sealions were very cute and very fun. I hope to have this experience next time.

Step-by-step procedure

6: The first thing we need to do in order to get to the Langton Island is to follow the map and walk to the marina. Then we need to board the boat and sail as close to the Langton Island. After that, we need...we have to take a tender to the coast of Langton Island area.

Classroom-based group (21 responses)
Step-by-step procedure (12 recordings that were similar but variations of the example below)

11: You need to follow four steps to snorkel: First, you need to wear a snorkel mask which fits on your face; Second, you need to attach the snorkel to your mask; Third, you need to put on your snorkel fins; And, finally, you need to wear a wetsuit to keep yourself warm.

Some were combinations of genre – almost all responses were clear and intelligible but this one was not so intelligible due to pronunciation and volume with ambient classroom noises and chatter.

14: To snorkel you must wear a snorkel mask, snorkel fins, a wetsuit sealions like...and (unintelligible) you have to take a boat to the snorkelling site to Langton Island swimming with the sealions (unintelligible).

30: First, go to marina. Second, boat (board?)...get on the boat and go to Langton Iceland (Island). Then, tender...then take a tender and go to snorkelling location and then dive to...diving to sea and meet the sealion and swim with sealion. Funny...funny swim.

18: Wear a snorkel mask which fit to the face. Attach the snorkel mask. Put on a pair of fins. If weather is cold, wear a wetsuit. Sealions swim in shallow water and eat fish.

19: In order to snorkel you must wear a mask that fits your face and wear a snorkel on the mask. Next, you should wear a snorkel outfit and wetsuit if it's cold. Sealions live on Iceland (island) and swim in the sea and eat fish. Swimming with sealions really felt cool. I felt I wanted to try the thing.

A couple of examples of the personal recount:

23. When swimming with sealions, it's very funny and wonderful. And I surprised because sealions is very big. So it's funny and wonderful. Yes.

29. My first VR experience. The seal looks so real I really like it. I want to go to the Australia see right away. I was so interested. I like Australia. I love VR. Thank you very much.

Appendix 3: Questions for Teacher Interviews

Teacher Interview Questions
(Guiding semi-structured interview questions)

What are some of the challenges that students face in learning English generally in South Korea?

What do you see as the greatest challenge for English language learners in South Korea?

Do varieties or standards of English matter in South Korea? If so, why? If not, why not?

What are the main challenges that your Year 10 students have faced in learning English?

What are the most difficult aspects of English to teach in South Korean classrooms?

Have you had much experience with immersive virtual reality environments?

Have you viewed all of the immersive virtual reality modules that we've developed? If yes, do you think that immersive virtual reality learning environments have a place in learning English?

What potential can you see in students using such environments outside of school to extend their classroom learning?

Do you think any of the elements of the learning modules are helpful in addressing some of the challenges that your Year 10 students face in learning English? If so, which? If not, why not?

What do you think the greatest strengths of the modules are for your Year 10 students, if any?

What would you change about the modules and why?

If further learning modules were available based on different situational settings and different topics would you promote them for use to your students?

What advice would you give for further development of such immersive language learning experiences for South Korean English learners?

Do you think there are better activities within or beyond the classroom that students can engage in to improve their communicative competence in English? If so, what might they be?

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Ms Ada (Yixuan) Yao has recently completed a M.Ed. (TESOL) at UniSA from which she has developed interest, experience and expertise at developing virtual reality learning environments to support foreign language learning. She has applied her expertise to the current i-VR project and is a current PhD student of Dr Greg Restall.

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Miss Belle Niu is a current Ph.D. student of Dr Greg Restall. She has completed education degrees in both Australia and China from which she has developed experience and expertise at ESL teaching and learning. She also has expertise in dance and performance arts which were applied to the current i-VR project.

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Technology Enhanced Learning: Applying Padlet, VoiceThread and Microsoft Teams in online university courses.

Dr Kelly Shoecraft
Griffith University

Abstract: *The use of technology in language teaching and learning has been rising in popularity with rapid developments in technology as well as increased need due to the recent coronavirus pandemic. Moreover, the sheer number of technologies available and the choices with how to implement them can be quite daunting for educators.*

In this article, three technologies implemented in Master of TESOL university online courses are presented and explored with regards to their enhancement of learning: Padlet, VoiceThread (video recordings) and Microsoft Teams (chat forum). Firstly, the applications of these technologies were mapped to the TPACK framework (Mishra & Koehler, 2006) along with educator observations on their implementation. Secondly, data from surveys and interviews provided students' perspectives on the use of technology and the benefits and challenges they experienced. Thematic analysis of this data revealed six themes: Engagement and interactivity, Peer learning, Flexibility, Record of work, Usability, and Challenges.

The findings of the study demonstrate how technologies can enhance learning through increased motivation and participation, shared learning and self-directed learning. The goal of this article is to inform TESOL educators on the potential of these technologies and inspire them to explore options for integrating technologies in their own classrooms and contexts.

Introduction

Technology enhanced language learning (TELL) has been rising in popularity with rapid developments in technology as well as an increased need for their implementation due to the recent

coronavirus pandemic. TELL can be synchronous or asynchronous and can be implemented in various forms, such as classroom-based activities, using technology to access information, homework activities, or as an extension of classroom learning (e.g., online gaming or language learning apps). Technology has also been prevalent in assessment practices, such as online testing and more recently, the emergence of advanced Artificial Intelligence (such as ChatGPT) has resulted in heated discussion on its usefulness (as a resource) or not (i.e. banning it altogether) (See Furze, 2023). Educators require knowledge and skill to evaluate and adapt technological tools to teach in the digital era (Zhou & Wei, 2018). However, the sheer number of technologies available and the choices with how to implement them can be quite daunting for teachers, particularly those who are new to teaching, or have limited experience with technology.

Research in the field of TELL has explored successful applications of technology across all macro and micro skills (i.e., reading, writing, listening, speaking, grammar, vocabulary, and culture) and discussed related considerations (e.g., Levy, 2009). According to Shadiev and Yang's (2020) review of the literature on TELL, writing, speaking and vocabulary received the most attention. Taking a different approach, Zhou and Wei (2018) highlighted the effective use of technology in the three dimensions of self-regulation: 1. Cognitive and metacognitive strategies (remembering and processing language), 2. Affective strategies (e.g., emotions, attitudes, motivation), 3. Sociocultural-interactive strategies (communication and cultures). This research demonstrates the vast array of potential for implementing technology in TESOL and raises the question of which technology to choose, when to apply it and how to implement it for enhanced learning.

As explained in the aptly titled article 'Putting the pedagogical horse in front of the technology cart' (Sankey, 2020), the technology should not be the starting point, but rather, the pedagogical aims should inform which technologies are chosen and how they are implemented. In other words, we should first consider the objectives for the activity or lesson and then choose a tool (e.g., a specific technology) that will ensure these objectives are met in an effective manner. Zhou and Wei (2018) emphasised the important role of teachers in "identifying the best technology tools and guiding students to be strategic, self-regulated language learners when using technologies" (p. 488).

Mischra and Koehler (2006) proposed the TPACK model as a conceptual framework for guiding teachers' integration of technology into classroom pedagogy. The TPACK model (Technological Pedagogical Content Knowledge) offers a conceptualisation of the complex and interrelated roles of the three aspects of content, pedagogy and technology within classroom environments. Figure 1 presents these three aspects and the ways they overlap to indicate interrelated knowledge.

Figure 1. The TPACK framework
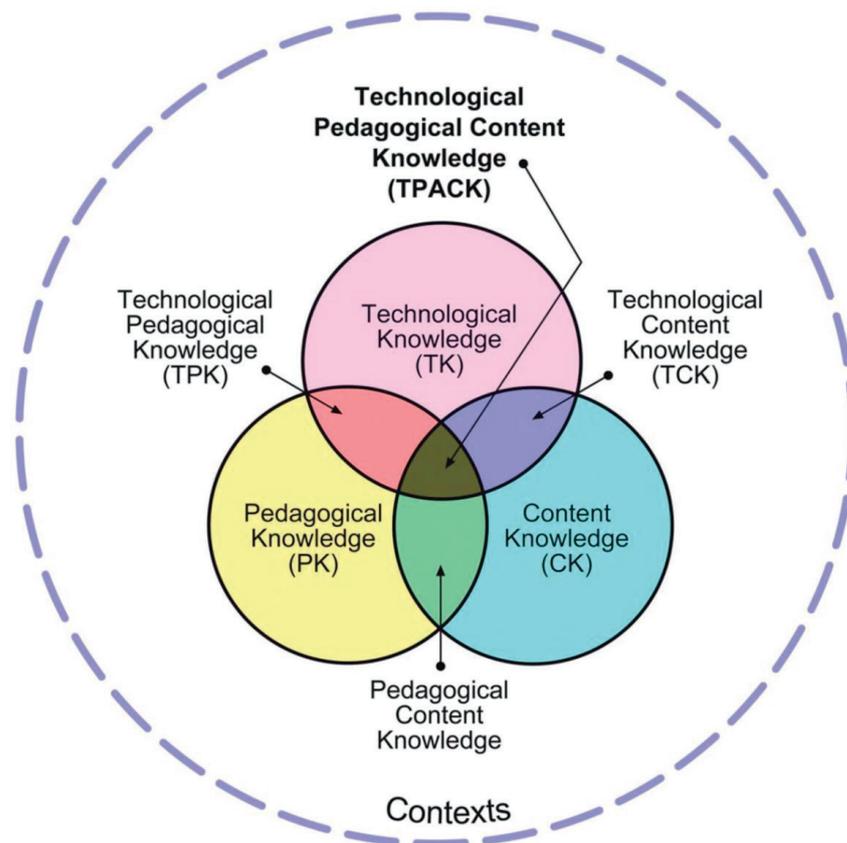
Note: Reproduced by permission of the publisher, © 2012 by tpack.org.

Content knowledge (CK) "is knowledge about the actual subject matter that is to be learned or taught" (Mishra & Koehler, 2006, p. 1026). In the context of TESOL, this knowledge refers to content knowledge of vocabulary, sentence structure, verb conjugations, etc. Pedagogical knowledge (PK) is knowing appropriate methods for teaching and learning, including "classroom management, lesson plan development and implementation and student evaluation" (Mishra & Koehler, 2006, p. 1026). In TESOL, this knowledge refers to using communicative approaches or task-based teaching, as well as

pedagogical strategies of active learning and group work, and assessment styles. Technology Knowledge (TK) is knowledge about various technologies and the skills required to utilise these technologies, referring to any technology deemed appropriate for use in the TESOL classroom (such as those listed below). Of course, the separation between these aspects is not clearly distinct, but for the purposes of applying technologies in the classroom, this framework is a useful tool to consider these aspects and their interconnectedness.

The term 'enhanced' within the field of TELL can be somewhat vague. It is often referred to as promoting or complementing the teaching and learning, using technology to motivate students, to provide more authentic experiences for language use, to assist learning or to increase engagement through fun activities (e.g., Akbari et al., 2016). Technology enhancement may also support students in adjusting learning to their own pace or even ensuring students learn how to be responsible in the digital world (e.g., Zhou & Wei, 2018). As will be explored in this article, enhancement can occur in numerous ways.

This article draws from examples of technology used in a Master of TESOL program at an Australian university. While it is understood that educators at universities have increased access to technologies (particularly paid versions) and have greater autonomy on technology choices, the aim of sharing these examples is to demonstrate ways in which classroom activities can incorporate technology for increased learning. Throughout the explanation of technologies and their application, alternative technology options that achieve similar goals are suggested. In the university courses in this context, the technologies were applied for the university students' learning and development as well as models for incorporating technology in their future TESOL classroom contexts.

The following section outlines the Methodology for this study including details of the context and data collection and analysis. Next, the three technologies are described and examples of how they were implemented in the courses are explained. Results are then presented in two parts: 1. Mapping to TPACK framework with educator observations, and 2. Results from surveys and interviews organised into identified themes. Finally, the discussion section returns to the exploration of enhancement and how learning was enhanced throughout the examples in this study.

Methodology
Context

The context for this article is a Master of TESOL program at an Australian university. The technologies outlined below were used in five courses in this program. One of these courses was particularly focused on reviewing and implementing technology for use in TESOL teaching. During the pandemic all courses in the program shifted to online mode and the use of technology increased to accommodate this change. The five courses generally applied a constructivist approach to teaching and learning, through active learning strategies (Felder & Brent, 2009), meaning that course activities involved critical thinking and the application of students' own experiences and understandings to engage with the course content. Subsequently, the purpose of the technologies was to contribute to these active learning approaches. The data referred to in this article are from surveys and interviews exploring students' experiences of technology used during the online delivery.

Participants

The students in the Master of TESOL program had varying backgrounds in the field of language teaching, ranging from no experience to numerous years' experience teaching in TESOL contexts. Some students were non-native English speakers themselves. At the time of data collection, students in the program were geographically distanced, some students were in Australia while others were overseas. Their ages ranged from 23 to more mature adults.

The data was collected from five courses in the Master of TESOL program. A total of 59 students were enrolled in one or more of the five courses during one trimester. 15 students chose to participate in this study and complete the online survey, of which four students also participated in a follow up interview. This data is complemented by one educator's reflections on the technology implementation. The educator taught three of the five courses during the data collection period.

Data collection

After receiving ethical clearance to conduct the study (GU Ref N0: 2021/328), students in the courses were invited to participate in an online, short answer survey. Participants were made aware that participating in the study would in no way affect their grades or their standing with the university. The online survey asked the

same set of questions for each of the specified technologies the participants may have used during one or more of their courses. These questions centred on usability, interactivity, collaborative benefits, and challenges of using the technology (see Appendix for survey questions). At the end of the survey, participants indicated their willingness to participate in a follow up interview. The interview questions delved further into participants' experience of the technologies, and invited suggestions on improving their implementation. These questions were underpinned by the constructivist pedagogical approach in the courses and were designed to understand the students' perspectives on whether (or not) the technology assisted in their engagement with course content and their learning. Despite the limited number of students who participated in the survey and interview, this data, along with the educator's observations, provides some useful insights into the use of technologies in online courses.

Data analysis
Example activities using the various technologies were firstly mapped onto the TPACK framework in order to reflect on how they enhanced the teaching and learning. Educator reflections on the enhancement of learning were included in this section. Secondly, data from the survey and interviews was coded and analysed using thematic analysis (Braun & Clarke, 2022). Only data pertaining to Padlet, VoiceThread, Teams or general technology was included. Initial coding of this data was related to aspects of active learning such as collaboration, sharing ideas, accessing information, types of activities and details of the specific technologies. The subsequent identification of themes was informed by the goal to understand if and how the technology was enhancing the learning. Therefore, these themes align with the earlier discussion on the meaning of 'enhancement'. Six key themes were identified, and results are presented according to these themes. Quotes from participant interviews presented in the results section were very lightly edited for ease of comprehension, such as deleting repetitive phrasing or filler words (e.g., 'um', 'you know').

The Technologies and their Application
Padlet
Padlet is an interactive, online whiteboard with multiple options for contributions using written, audio or visual modes or through

uploading documents, videos, etc. It is a collaborative tool that permits multiple users to contribute synchronously or asynchronously. Padlet activities can increase students' engagement and participation (Frison & Tino, 2019; Shoecraft, 2022), contribute to the co-construction of new knowledge (Dewitt et al., 2015), and provide a space for shared learning, revision and assessment (Shoecraft, 2022). Padlet is also very simple for students to use, and easy for teachers to create. There are seven options for the style of Padlet (Figure 2) depending on the purpose of the activity.

Figure 2. Padlet styles
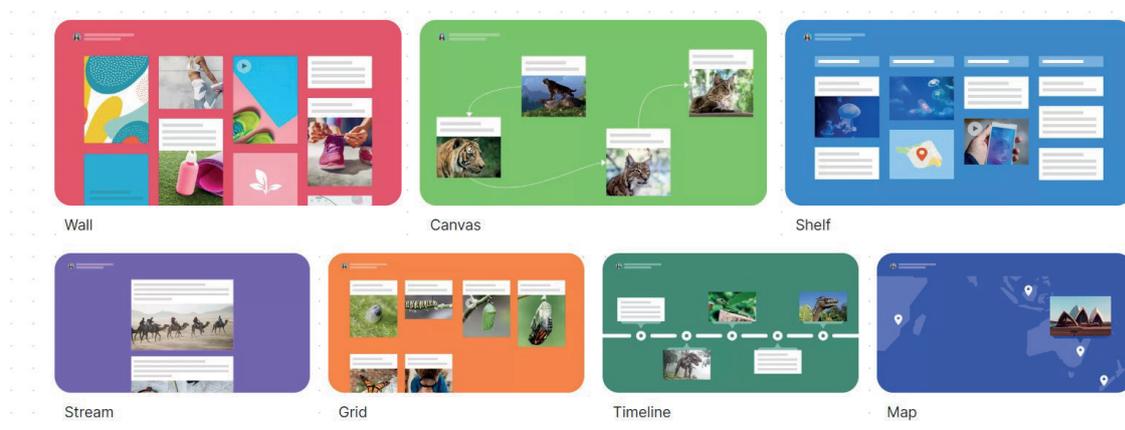
Note: Figure reproduced from https://Padlet.com/

Practical considerations:

- A free version is available, which includes three Padlets. These can be deleted and reused.
- Once completed, a Padlet can be downloaded in various formats.
- Students do not need to have an account to access and post. It will show their post as anonymous. If necessary, students can be instructed to add their name to a post.
- Share a Padlet through QR code, link, or embed it in a course site.
- Accessible on computers, tablets, smart phones.
- Padlets can be displayed on a class whiteboard for discussion during face-to-face activities or used for interaction and recording responses during online classes.
- Padlet is a viable host platform for other incorporations of technology (e.g. video recordings, blog posts, discussion board activities).

Applications of Padlet

One example in the university courses was the use of Padlet to record self-introductions during the first week of class ('wall' style) (see Table 1). Using stimulus questions, students added their introductions using a choice of written (with a photograph), oral or video recording.

A 'canvas' style Padlet was used for a debate activity (see Table 1). The class was divided into groups (for or against), and then posted their arguments onto the Padlet using two different colours (one colour for 'for' and another colour for 'against'). Each argument was connected to a counter argument to provide a visual image of the debate and to generate new ideas.

The 'shelf' style Padlet was used for activities involving stimulus (see Table 1). A short document, or video was posted at the top of each column with specific questions to be answered below. For example, watching a video and answering comprehension questions or reading a text and explaining why you agree or disagree with the statement. This type of Padlet was used in a variety of ways, such as a group activity where each group completed one of the columns and then reported back to the whole class. Another option was to complete a column individually and then share responses with the whole group. For a longer activity, all groups or individuals completed all the columns and then compared their responses with others.

VoiceThread

VoiceThread is a cloud application that runs in Google Chrome or Mozilla Firefox (voicethread.com) and requires purchase of a licence. When used for oral language activities, VoiceThread can be an enjoyable way to improve oral English skills (Zemlyanova et al., 2021) and has options to provide feedback directly in the program which supports feedback literacy development. Examples of using VoiceThread on their website (voicethread.com) include providing individualised feedback on students speaking, practicing for IELTS speaking tests, and asynchronous discussions on media-based stimulus.

VoiceThread was chosen because it accommodates multiple forms of media and simplified options for feedback. However, video recordings using other devices and software (e.g., smart phones or iPads with iMovie app) are also beneficial for language learning as an opportunity to practice spoken language and build confidence in speaking skills. Recording directly into PowerPoint

is another option to practice presentation skills. Digital storytelling provides opportunities for interdisciplinary projects that support speaking skills and creative thinking (Shoecraft, in press; Yang et al., 2020). Video projects are an authentic, relatable activity for students and can act as a precursor to a more academic writing task (Hafner, 2014).

Practical considerations for VoiceThread

- VoiceThread is a paid service.
- VoiceThread has the option to leave comments throughout the video (in written, audio, visual formats).
- Can record directly into the program.
- Can add different types of documents, including PowerPoint slides or images.
- Instructions and practice in using the technology is required to ensure success.

Applications of VoiceThread
In one of the courses, students were tasked with recording a vlog (video blog) explaining or teaching one aspect of the English language (e.g., verb conjugations, minimal pairs, pragmatics of greetings, or even tips on how to learn English) (see Table 2). Examples of vlogs were viewed in class as well as an example of the assignment recorded in VoiceThread. An explanation on using VoiceThread was provided during class and students had an opportunity to practice using the technology to record a 1-minute video on any topic of their choosing. In addition, the weekly task for the course required students to create another short video using VoiceThread for increased exposure and low stakes practice with the technology. For the vlog assignment, students pre-recorded their videos and submitted them to the course site. They had the option to use additional aspects of the technology, such as multiple types of media or special effects. However, this was not a requirement to succeed in the assignment. Once vlogs were submitted, the assignment required watching at least 2 other videos and leaving comments, thus practicing their feedback skills.

Microsoft Teams
Microsoft Teams (https://www.microsoft.com/en-au/microsoft-teams/education) is a technology for increasing communication between educators and students and among students, through

written messages or calls. Online classes can be hosted in Teams with video and chat functions as well as 'hands up' and emoji responses. The main focus of Teams usage in this article is as a chat forum, where students can post ideas and respond to comments, as well as share resources.

Chat forums are a great place for students to practice their writing skills, engage in discussions on various topics and share ideas. Participating in these types of forums can increase engagement and motivation which leads to increased learning (Akbari et al., 2016). In this course, Microsoft Teams was used as a chat forum, however, other technologies such as message boards or private chat groups on social media platforms are also good options.

Practical considerations for Teams

- Teams is part of the Microsoft suite and is a paid software.
- There is a mobile app for Teams.
- Teams can be used for communication between individuals or groups as well as for whole class activity (through the creation of a specific Team with all class members enrolled).
- Share files, videos and other media in the Team.
- Can comment on posts and react to posts using emojis.
- Host meetings (live classes) in the Team and record the meeting.
- There are ever evolving features, including accessibility features, being added by Microsoft.

Applications of VoiceThread

During one course, specific questions were posted each week for the students to leave a response. They were also encouraged to comment on each other's posts – either agreeing, suggesting alternative ideas or developing ideas further. These activities were generally weekly tasks (i.e., homework activities) to be completed asynchronously to consolidate understanding and encourage continued engagement with the topics. This forum also provided a space for students to generate their own discussions on course content, share teaching ideas, ask each other questions, and share resources related to the discussion (e.g., videos or readings) (see Table 3).

Results
The data analysis consisted of two components: 1. TPACK mapping with educator reflections and 2. student reflections from survey and interview data.

TPACK mapping and educator reflections
In this section the specific examples using the three technologies (described above) are mapped to the TPACK framework – using the content knowledge, pedagogical knowledge and technological knowledge. They are presented in tabular format and are followed by educator reflections on the use of the technology for enhancing the learning.

Padlet
Table 1. Mapping Padlet activities to TPACK framework

Activity	Content Knowledge	Pedagogical Knowledge	Technological Knowledge
Self-introductions activity	Introductions, language related to themselves	Creating a welcoming, community atmosphere for the class with the intention to reduce anxiety and increase willingness to speak and share ideas.	Knowing how to use Padlet (Padlet would be used often throughout the course). Knowing the different options for posting on Padlet and having a choice.
Debate Activity	Understanding and discussing elements of the English language and using debate style language.	Thinking critically and engaging with multiple perspectives on the topic.	Posting arguments on Padlet provided a written record of ideas to be viewed later or by those who were absent. Activity could be conducted in an online class. Using Padlet technology add to the 'fun' element.

| Comprehension activities using multimedia | Comprehension exercises related to specific class topics using spoken and written forms of language. Apply these understandings to own contexts. | Students critically engaged with the content provided rather than a lecture from the educator. Sharing of ideas across individuals and groups. | Padlet provided options for multimedia in one location. Record of all responses for increased sharing of ideas. |

In the self-introduction activity, the learning was enhanced through the fun aspect of using Padlet and all class members contributing through their choice of medium, which led to increased participation. They could also self-correct and refine their submissions, potentially contributing to increased confidence in their language use. The second activity was a novel way to conduct a debate without requiring students to speak in front of the whole class. Students engaged critically with the topic through group discussion and written responses. It was a good way to complete a debate activity in the online class. The third example provided a variety of multimedia for individuals and groups, in one simple location. Students could review work completed by other groups or individuals in addition to completing the activities themselves.

VoiceThread
Table 2. Mapping VoiceThread activities to the TPACK framework

Activity	Content Knowledge	Pedagogical Knowledge	Technological Knowledge
Practice activity	Know the technology	Practice technology in low stakes activity	Develop practical use of the technology (digital literacy).
Homework task	Understanding and explaining a class topic.	Sharing knowledge among class members. Also, scaffolding for vlog assignment.	Further increase knowledge of using the technology.

Vlog assignment	Understand and describe a particular aspect of English language.	Develop oral presentation skills. Peer feedback opportunities. Watching videos to increase own understandings of topics.	VoiceThread provided option for pre-recorded oral presentation to alleviate potential stress. Students could practice and re-record presentations. Options to use different media in presentation and showcase their own skills. Feedback options directly in VoiceThread.

This application of VoiceThread demonstrated the benefits of introducing new technology, but also the importance of appropriate scaffolding to ensure success. The opportunity to manipulate the technology in various ways meant students could showcase their strengths, develop digital literacy and be creative in the assessment task. Moreover, the use of video recordings meant students could pre-record their video prior to submission. Whilst practicing 'live' presentation skills is important, pre-recording alleviated potential stress on students to perform, thus improving their confidence in speaking. They had an opportunity to self-correct when watching and re-recording their own videos in relation to presentation skills (such as pronunciation, speed, eye contact), content and flow of ideas, as well as technical aspects of lighting, effects, use of props, etc. Peer feedback options increased peer learning, as well as developing students' feedback skills.

Microsoft Teams

Table 3. Mapping Teams activities to TPACK framework

Activity	Content Knowledge	Pedagogical Knowledge	Technological Knowledge
Responses and discussion on topic related questions.	Write blog style posts on their understandings of topics. Use more informal language.	Critically engage with topics and learn from each other's ideas and experiences. Broaden their own perspectives.	Teams provided options to contribute synchronously or asynchronously. Options for various mediums, such as emojis and document sharing. Options to self-correct submissions before posting.

These activities encouraged students to engage critically with the topics and broaden their understandings beyond their own lived experiences. Discussions on Microsoft Teams provided models of critical engagement from others' posts, as well as time for reflection prior to posting. The technology of chat forums (as opposed to classroom discussions) enabled increased opportunity for all students to contribute their ideas and to practice their language skills in a less formal context. In the beginning, motivation to post was potentially related to participation being part of assessment. However, over time, discussions grew organically beyond the requirement for assessment.

Students' reflections

In this section, findings from the survey and interview data are presented. 15 participants completed the survey. All 15 indicated they had used Padlet and Teams during one or more of the university courses, whilst only 11 participants had experienced VoiceThread in these courses. Four participants also completed an interview. Only one of the interviewees had experienced VoiceThread in their courses. Findings are presented according to six themes identified during the coding process: 1. Engagement and interactivity, 2. Peer learning, 3. Flexibility, 4. Record of work, 5. Usability, 6. Challenges.

Engagement and interactivity

One focus of the surveys and interviews was the opportunity for (increased) interaction when using the technologies. Interviewee 2 clearly summarised this focus by stating "the main reason between being in class learning and online learning is just the interactivity with your peers". They continued to explain that the technologies "really do have their place [in online classroom] and should be used within the space well".

There was an overwhelming positive response to Padlet in the surveys, with all 15 participants indicating that it was useful for interactions with peers, with some answers including emphatic adjectives such as "extremely" and "absolutely". One participant stated that it was a "good way to put down discussed ideas in visual format, in real time". Interviewee 2 explained that:

> Padlet really helped [with interactivity]. Kind of bridge that gap and still feel like you're able to have a really good deep level educational discussion with your peers even though it's not face to face, because obviously everyone can't talk at the same time in an online space they can't just turn on your microphones and start talking, it just doesn't work. So having those visual formats, being able to just type out your ideas and have it update live. I think that really helped support the interactivity in class a bit more. Obviously, there's a time for the teacher to talk and for us to listen, but having those activities filtered in as well and having us be able to discuss what we think about the content, I think that's what they really helped with.

Interviewee 4 agreed that Padlet increased interactivity but also commented, "I also know that during class time you are reliant on those conscientious students to actually complete it, and so you see basically the same students week after week doing it when you have a small group, that's what it is". One possible reason for students not contributing to the Padlet could be concerns with sharing ideas in a public space. Interviewee 3 mentioned the option to post anonymously in relation to their own experience: "If I look back to very first very first trimester of studying at [university] If I think back myself, I was actually always afraid to post something. You know what if I'm wrong? Or what if? What if somebody doesn't agree and will not agree with my ideas and the very first trimester, and it's a little bit stressful. But with the anonymous, I don't worry".

Nine of the 11 participants who had experienced VoiceThread responded that it was an interactive technology. The remaining 2 participants said it was somewhat interactive. Many of the positive comments relating to VoiceThread were related to the comments feature: "The ability to add comments directly into the Thread makes it easier for everyone to interact". One participant recognized the multiple options within VoiceThread to potentially enhance engagement: "the different ways you could display content in many forms; this played to different classmates' strengths I think".

The survey participants indicated varying degrees of engagement with Teams depending on how it was incorporated into the different courses. Survey participants commented that "We didn't use it much, just for messages", "it was more used for messages or sharing ideas from the lecturer". It appeared that those who experienced Teams for group activities and weekly blog posts generally found the technology interactive. Teams usage was elaborated on during the interviews. Interviewee 2 commented that "Teams, blog posts and reflections on readings increased interactivity because it was assessment, but over time, people became really interested in topics rather than just doing for assessment". They said that this form of assessment forced people to "really think about the topics and form an opinion not just regurgitate" and "I think people ended up getting really passionate about the discussions and we're really interested in other peoples' posts and they would say hey OK, what exactly do you mean by that? Can you tell us more? Because it was just so interesting". Further use of Teams for group work is mentioned in the following section on peer learning.

Peer learning

Discussions, group work, sharing ideas, and oral presentations in the courses were opportunities for peer interaction and potential learning. This theme of peer learning was evident in responses from participants when discussing activities using the three technologies.

Many survey responses commented that Padlet was helpful for sharing ideas and collaborating with classmates, although one participant stated, "I think it would be good as a forum for sharing ideas, although the level of engagement and interaction within the Padlet influence the effectiveness". Interviewee 2 elaborated on using Padlet during discussions: When you just give us yeah 10

minutes to go and fill in the Padlet and then again we can see everyone's live updates and read through their ideas and still be able to bounce off each other even though we're not in a classroom setting. I think it's very helpful". Interviewee 3 explained class activities where each group read one article and then posted a summary on the Padlet. They said it was "good because I don't have time, I just can read their summaries and I can learn what kind of article is this and if it is interesting I can read it, I just can read others note taking". Interviewee 3 continued to say that "sometimes when I do some assignment, it's easy to go back to that Padlet, and if I was not sure about this theory, I can just read that tile and learn, learn very quickly and well".

Survey responses indicated that VoiceThread had benefits for peer learning as they could watch other students' presentations and learn from them – both with the content in the video and how the technology was used by classmates. One participant commented that they also enjoyed seeing classmate's personalities in the videos.

Peer learning was also mentioned with regards to Teams. For example, "posting reflections on the readings on teams was helpful – like a blog in one spot". Another survey participant stated, "I used it to communicate with my teammates when we were doing our group assignments". Interviewee 3 elaborated on this group work aspect saying that it was convenient for having discussions with group members who were in another city. In addition, Teams was great for "sharing files, in one easy spot, to work on group assignments" (Interviewee 3).

Flexibility
Comments from the participants referred to flexibility when using technology. These comments were related to accessing content at various times throughout the trimester (see also 'record of work' section), contributing asynchronously and options to engage with the technology in various ways or with different mediums.

In regards to Padlet, Interviewee 3 mentioned they were concerned with speaking in online classes as a second language English speaker, particularly since face-to-face classes involved body language and facial expressions that are not always present in online classes. They stated that "using the technology [Padlet] I think I have more opportunity and I have more chance to post my ideas and my ideas or my opinions more frequently and no time limits .... if I want to add my opinion I can put it whenever I want, even if after the class".

One survey respondent mentioned that a benefit of VoiceThread was to prepare work at their own pace, and another said that a benefit was to "try to video record repeatedly until I feel satisfactory with recordings". As stated previously, participants also recognised that the options within VoiceThread played to the strengths of different students.

Interviewee 4 mentioned that all the technologies were often used effectively to provide extra resources on topics. They particularly liked that these resources used different multimedia: "these resources could be a journal article linked or resources could be a newspaper article, link to something to like, you know, put it all together or anything. I find anything that uses any sorts of triangulation is really helpful for learning".

Record of work

When asked about Padlet in both the surveys and interviews, participants often referred to the benefit of having a record of work that was completed in class. For example, "I think it [Padlet] is very helpful in terms of recording the activities done in class, the ideas shared, and serves as future reference" (survey response). Interviewee 3 mentioned that it was great to have ideas written down to use for "reviewing the study, especially when I do the assignments". They elaborated that during the class they would understand content, and acknowledge good ideas, but then when doing the assignment couldn't remember the idea exactly, so could go back to read about it again. Interviewee 2 agreed that the record of ideas was beneficial for assessment tasks stating:

> I went back to them heaps because it's just a nice little collection of some ideas in dot points of all the main features of those kind of theories. So when I was doing an assessment and I was like hang on, what was that theory that I really enjoyed and thought was really helpful? Then I would go back to the Padlet and just have a look and have it all there. It was really convenient.

Interviewee 4 explained that the record of work on the Padlet also helped when they missed a class: "when I had to miss class this week, so I would always check what the hell is happening on the Padlet and go through the answers".

Usability (Practice & Instructions)

A specific question in the survey was whether the technologies

were 'easy to use'. There was often a positive response to this question, but there was also elaboration (in both the survey and interviews) on the opportunities to practice the technology in the class and the provision of clear instructions that influenced the usability of the technologies. When discussing the use of technology in general, Interviewee 3 stated that at first it was "not really familiar, but after like a week or two or three weeks so it's more familiar and more much comfortable for me" (Interviewee 3). They also said the technology was quite easy "if the instruction is clear". In class demonstrations of technology was mentioned by Interviewee 4, stating that "for me what works really well as when we actually get that nice quick walkthrough that just demonstrates [the technology]". In addition, Interviewee 1 said that opportunities to practice and play with the technologies helped increase usability and confidence.

When asked whether Padlet was 'easy-to-use', the survey responses were an overwhelming yes (100%). Interviewee 3 concurred that "Padlet is really easy". Interviewee 2 also talked about using Padlet for their own teaching: "I make my own Padlet for like a little activity for students to use. Just because it's cute and it's nicely presented and it's very simple to use, so it's kind of fun, adds some brightness to the class".

Of the 11 participants who had experienced VoiceThread, 8 responded yes and the remaining 3 replied with "50/50", "hard to say" "in theory – yes, I still struggled to use it competently". Even with participants who responded yes, there was frequent mention of helpful instructions that contributed to the usability, or that practicing with the technology helped to increase capability. One participant responded, "with the teacher's support I felt comfortable using it". Generally, the survey responses indicated that there were some trepidation or challenge in using VoiceThread, but their confidence grew with the practice sessions and clear instructions. Interviewee 1 stated that "if you had the chance to play around with it [VoiceThread] on your own time without anyone listening to or watching you doing it, it's really helpful".

13 participants responded that Teams was easy to use, and 2 said "no" or "not for me". As previously stated, there were some differences in how Teams was utilized in the courses which may have contributed to these responses.

Challenges
A number of challenges were identified by the participants in relation to specific technologies, or the use of technology in

general. Some of these challenges were related to the individual circumstances of the participant whereas other challenges were related to the technology itself, or the specific use of the technology (by educators or students). For example, Interviewee 1 mentioned that their equipment was quite old and so some of the technologies did not work so well. They upgraded the equipment, and it worked much better. Interviewee 1 also highlighted that assumptions are made about students' technology skill levels. As an example, they said that training or instructions on Powerpoint had "possibly been left out because it's been assumed that people know what they're doing with PowerPoint[1], but I hadn't used it before. Not for 10-15 years".

Interviewee 4 mentioned sometimes the technology would not work for students during live classes which was disruptive: "There's so many ways that you know it can interrupt their system and they're just not in that time able to, you know, troubleshoot. That takes up too much time, so." Interviewee 3 commented that if there were lots of technologies being used in a course, then it was sometimes difficult to remember which one to use to submit or post answers and homework.

Often survey participants responded with no challenges when using Padlet, but one challenge mentioned was "get students engaged in sharing ideas". Another participant said it was "difficult to see 'where' on the Padlet our groups were entering". One response said they had difficulty getting the video function to work the first time.

One survey participant said that "figuring out how to do slides [in VoiceThread] at first was tricky, but again, once you get it, you're good". They also said that VoiceThread worked better on a laptop rather than a phone or tablet.

One challenge in using Teams was "understanding all the functions" and "getting used to the layout" (survey responses). On survey participant replied, "it was a bit confusing at first time about setting related (find hidden channels or teams, setting the camera and mic). As previously mentioned, Teams was used in different ways in the courses which led to mixed responses on the technology's effectiveness for engagement and collaboration. Interviewee 4 also talked about challenges with Teams in regards to how it was utilised: "I like teams, but again, teams only works

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[1] PowerPoint was one option for media to use in the VoiceThread presentations.

with the person running it. If it's very hands off, it just sits there. If it's very hands on, you know, it works well and also depends on who's actually going to interact with it as well".

Interviewee 4 mentioned that sometimes students shared information on Teams that was more personal and was perhaps accidently shared to the whole class. They said the post was "to do with their personal assignment or their personal circumstances. And while I would hope that the student is aware of that, I don't know if they're also aware of that everyone else can see it like they might be OK with sharing it with the course convenor, but are they are OK, when they realize that they've shared it with the course".

Discussion

The beginning of this article problematised the use of technology with regards to the choice of technology available and the necessary reflections on the meaning of 'enhanced' in Technology Enhanced Language Learning. Having introduced three specific technologies and example applications, attention will now return to a discussion on 'enhancement' of learning. This section will explore how these technologies and activities enhanced the participants' learning. Drawing on the use of the term enhancement in the literature (see Introduction) and from the constructivist viewpoint, the following discussion is organised into three sections exploring how enhancement occurred through increased motivation and participation, shared learning and self-directed learning.

Motivation and participation

The use of technology is often seen as a fun activity (such as gamification) which can increase the motivation for students to participate in an activity. Therefore, learning may be enhanced through this improved engagement with the activity and the content. Enhancement also occurs through activities which increase confidence. This has a cyclical effect of increasing motivation which leads to further confidence boosting.

In these courses at the university, Padlet was generally a useful technology to enhance learning through students' motivation to participate and opportunity for interactions (Table 1). Study participants described Padlet as a fun technology that was easy to use and permitted all students to contribute ideas simultaneously. There was a fun element in the self-introductions Padlet with the flexibility to contribute using their chosen medium

which increased confidence and willingness to participate. The debate on Padlet was also a novel way to encourage student participation and engage in critical thinking.

The use of VoiceThread contributed to the development of digital literacy skills that permitted participation in different forms (Table 2). The flexible options for presenting ideas meant students could draw on their own strengths to participate. Thus, learning was enhanced through students applying their own creativity and drawing on their self-confidence.

Participation in all three technologies was improved through the flexibility to formulate responses and refine them before posting or submitting. This process decreased stress or anxiety related to a lack of confidence and fear of making mistakes. In particular, the anonymous option in Padlet provided an easy entry into posting ideas for the whole class to view. Therefore, enhancement of learning was achieved through building confidence, encouraging participation and strengthening motivation.

Shared learning
All students arrive in our classes with prior knowledge, experiences and skills which can be utilised for shared learning and peer teaching opportunities in the classroom. All three technologies in this study provided options for sharing ideas and modelling language use through individual or group work activities. Often in classrooms there is only time to hear the ideas from a small number of students – whether in a whole class scenario or a small group. Opportunities for everyone to share their ideas using the technology means more voices are heard and a larger range of diverse ideas are presented. Thus, widening all students' perspectives and understandings.

In this study, the increased confidence and opportunities for all students to post and participate augmented the sharing of ideas and learning from each other's perspectives, particularly through asynchronous engagement (i.e., access to a record of work). Students improved their digital literacy through practicing the technologies as well as viewing how others engaged with and utilised the technology, particularly when using VoiceThread. Discussions occurring in Teams modelled language use as well as appropriate interaction when discussing complex and sometimes sensitive ideas (Table 3). Group work in Teams assisted students in building connections with each other despite geographical distances, and they could easily record and share ideas and

documents. Therefore, learning was enhanced through increased opportunities to share ideas and engage in peer teaching and learning.

Self-directed learning

Learning enhancement may occur when technology permits students to adjust learning to their own pace or skill sets. Many language learning apps (e.g., Duolingo) use a self-directed approach to learning. Of course, self-directed learning also requires the students to maintain motivation throughout the learning journey. Language learning in particular cannot be achieved solely on extrinsic motivation provided by educators. Learners need to become self-motivated and take control of their learning both in and out of the classroom in order to successfully learn a language. It is necessary for educators to assist students in becoming aware of the strategies for language learning (see Eisenchlas & Shoecraft, 2022), and technology can assist in this endeavour.

Participants in this study mentioned the benefits of engaging with content and activities asynchronously. They could review ideas from class and post their own ideas if they missed class, or when they were completing assessment tasks. In addition, students could asynchronously access multimedia resources posted on Padlet or Teams. Therefore, this flexible access enhanced learning because students were engaging further with course content outside class time.

Oral presentations using VoiceThread avoided some of the stress and anxiety experienced when students are required to deliver a live presentation (Table 2). Creating presentations in VoiceThread maximised students self-directed learning in both experimenting with the technology and delivering their presentation at their own pace. They could watch and re-record their videos until they were satisfied with their submission. This review process strengthened students' abilities to identify errors and self-correct. In addition, students had agency in their media choices to use in the presentation. Therefore, the technologies and their applications in this context enhanced learning through encouragement and opportunity for students to become more self-directed and take ownership of their own learning.

Conclusion

This paper has examined the implementation of three specific technologies (Padlet, VoiceThread and Microsoft Teams) in

university courses through mapping the activities to the TPACK framework, educator reflections and analysing participants reported experiences. Alternative technologies have been suggested to mitigate some of the challenges for educators and students to access specific, paid technologies. Despite being a small data set, this study has provided insight into the benefits, and some challenges, of these technologies to enhance learning. This enhancement may present as increased motivation and opportunity for participation, shared learning, or self-directed options for learning. Throughout all of these activities, students were applying their language skills to participate in and successfully complete higher level thinking tasks. Within other TESOL contexts, enhancement of language learning can emerge through the application of technology to motivate students to participate through 'fun' activities, opportunities for all students to participate, and the provision of flexible options for participation. Enhancement also occurs when technology promotes the use and application of language knowledge to engage in discussions, shared learning and critical thinking activities. Moreover, flexibility and asynchronous engagement with technology is beneficial for developing self-reliant and self-directed learners.

Acknowledgements

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Appendix
Survey questions related to Padlet, VoiceThread and Microsoft Teams
Short answer responses. The same 9 questions were asked for each of the three technologies.

1. Did you use VoiceThread/Padlet/Microsoft Teams in one or more of your courses?

2. Was it an easy-to-use tool?

3. Did this tool help you understand the content/materials better? For example, did it improve your understanding of a topic or understanding of the reading?

4. Did you find the interactive nature of the tool beneficial for sharing ideas with classmates?

5. Do you think you engaged better in the class by using this tool?

6. Did you find this tool useful for collaborations with the class members?

7. What were the challenges with using this tool?

8. What were the benefits of using this tool?

9. Are there any other comments you would like to make about this tool?

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Leveraging L2 academic writing: Digital translanguaging in higher education

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Abstract: *Although the literature on computer-assisted language learning has demonstrated that digital tools such as online translators and bilingual dictionaries offer affordances to second language (or foreign language) writers of English to solve linguistic (lexical and syntactic) issues, the extent to which digital technology supports multilingual students in producing academic texts has been underexplored. In this study, we investigate what digital technology enables and does not enable students to do in communicating their intended meaning in English by examining the writing experience of a multilingual student in an online higher education environment. The data was derived through screen sharing and online stimulated recall interviews and analysed using the concept of digital translanguaging, which focuses on meaning-making using one's entire meaning-making repertoire. The findings suggest that digital translanguaging offers many opportunities to expand the knowledge of vocabulary through self-learning. However, it also becomes evident that the success of working through lexical and syntactic issues is impacted by several factors, such as prior knowledge of the second language (L2), effective online search strategies, and awareness of digital reference resources for different purposes (e.g., online translators for literal and/or context-appropriate translations and language forums to seek advice about specific language issues from proficient speakers). We conclude by providing insights into instructional and strategic support to effectively assist multilingual students to offer greater opportunities to achieve their communication goals.*

1. Introduction

The exponential growth in digital technology has catalysed the way students learn foreign languages in self-directed ways with little or no support from teachers or formal language instruction. Evidence from computer-assisted language learning (CALL) literature shows that texts produced by bi/multilingual students with the assistance of digital tools (e.g., online translators and online dictionaries) contain fewer errors (lexical and grammatical) compared to those composed without using these tools (Lee, 2020; Tsai, 2020). Several studies have shown how students use large repositories of information available in search engines (Yahoo, Google) to improve their writing by "checking sentence structures" (Wuttikrikunlaya et al., 2018, p. 117). Other studies have demonstrated the usefulness of online translators, including Google Translate, in developing lexical and syntactic knowledge and enhancing motivation in producing L2 texts (Alhaisoni & Alhasysony, 2017; Lee, 2020; Niño, 2009; Tsai, 2020; Wang & Ke, 2022). Similarly, research on online bilingual dictionary apps with links to features such as thesauruses, conjugators, and large volumes of corpus data has demonstrated that these functionalities have provided opportunities to expand vocabulary knowledge instantly by learning not only literal translations but also contextual meanings and verb forms of unknown words (Garcia & Pena, 2011; Li & Xu, 2015; Wuttikrikunlaya et al., 2018).

Although the above studies have offered many important insights into the affordances of digital resources for multilingual writers, the researchers have mainly adopted a product-oriented research design. They have largely drawn conclusions by looking at the final text produced with and without digital tools and comparing the number of grammatical and lexical errors in each version. A numerical analysis of data has made the meaning-making process invisible with details of how and why students used these tools and the kind of linguistic issues (lexical and grammatical) they could and could not resolve. We adopted a process-oriented approach to zoom in on the meaning negotiation process underpinning the multilingual and technology-mediated writing experiences using a digital translanguaging lens. The digital translanguaging concept offered a way to understand how the meaning maker draws on not only their multiple linguistic resources (mother tongue, other stronger languages) in their repertoire but also various digital reference resources (bilingual dictionaries and language forums) in the process of constructing

meaning in English. Conducted as part of a larger study (Koralage, 2022), the aspect we present here set out to investigate digital translanguaging practices in an online higher education context to understand the extent to which these practices expand the ability to communicate meaning.

The research questions that guided our investigation were:

1. What meaning-making resources, both linguistic (English, French) and digital (Google Translate, bilingual dictionaries), does the multilingual learner draw on to produce academic texts in an online higher education environment?

2. How does the student mobilise these resources to communicate the meanings she intends to convey?

3. What are the affordances and constraints of digital translanguaging in producing academic texts in English?

The findings show the affordances of online digital tools in collaboration with the student's multilingual resources enable her to fill her lexical gap in a way that would not be possible in an offline learning environment. However, her meaning-making process also reveals challenges in delineating a word that does not directly translate into the target language due to a lack of certain kinds of strategies and skills necessary to build a sound vocabulary knowledge. Our study provides implications for teachers to better support language learning through digital translanguaging.

2. Literature Review

The digital translanguaging perspective has been informed by the expanded view of translanguaging (Vogel et al., 2018). Translanguaging has been defined as "the deployment of a speaker's full linguistic repertoire without regard for watchful adherence to the socially and politically defined boundaries of named (and usually national and state) languages" (Otheguy et al., 2015, p. 281). Challenging the boundaries between named languages, this concept has foregrounded how students draw on their unitary linguistic repertoire that comprises features of all named languages in the process of meaning-making and communication. This body of work has demonstrated that multilingual students tend to mobilise their varied mother tongues and other stronger languages to promote academic engagement, make learning "more efficient and effective", and "reduce the cognitive load" (Carroll & van den Hoven, 2016, p. 151; Mazak et

al., 2016), when learning in a second or foreign language in higher education contexts.

The bourgeoning scholarship of digital translanguaging has challenged the perceived boundaries between linguistic (English, Spanish) and digital semiotic resources (online dictionaries, bilingual dictionaries, search engines). The proponents of digital translanguaging have argued that technology on its own does not have independent agency but "in the coming together of human and technology elements" (Vogel et al., 2018, p. 94), specific actions or meanings (e.g., literal and contextual, collocations, nuances) are produced, which become integrated into the student's repertoire in a way that makes it difficult to categorise whether the features that went into the meaning-making once belonged to named languages, technology, or any other resource.

Currently, a handful of studies have mainly focused on school and out-of-school practices. For instance, Vogel et al.'s (2018) study of a Grade 6 Chinese and English bilingual student's use of an online translator to produce a text in English demonstrates that their participant's meaning-making practices went beyond copy-pasting of the machine-generated output. Vogel et al. show how the participant processed the translations accessed through machine translators using his knowledge of Chinese and English for evaluating and producing his text by "rewrite[ing] aspects he did not deem adequate" (p. 102) to achieve his expectations of accuracy. In the process of engaging with machine-generated translations, the authors demonstrated how new understandings of 'accurate' language get embodied in the process and become part of his full semiotic repertoire.

Other studies, for instance, by Schreiber (2015) and Kim (2018), have focused on identity construction through digitally mediated mixed language practices. For instance, Schreiber (2015), in his study of a Serbian hip-hop artist on a social network site (Facebook) has demonstrated how the artist's multilingual digital practices allowed him to make a "unified expression of identity" (p. 69) rather than separate identities for different languages (English and Serbian) in his repertoire.

While the previous research on digital translanguaging has demonstrated that all the meaning-making resources of multilingual learners support when learning in a non-mother tongue language, there is a dearth of research on the challenges they may encounter despite mobilising their entire unitary repertoire. By learning more about students' digital translanguaging processes and the

limits of working on their own, teachers can help them develop more effective practices in a way that builds on their whole linguistic repertoires.

3. Research site, design, and methods

This research took place in a massive open online course (MOOC) platform hosted by an Australian university in partnership with the Coursera MOOC provider. Due to space constraints, we have chosen to look at one multilingual participant, Maya (pseudonym), who speaks three languages, Arabic, French, and English, in the context of the present study. When Maya participated in this study, she was a 20-year-old female in her third year of medical school in Morocco. She stated that her mother tongue was an Arabic dialect. She identified French as her second language, which she started learning at school from grade one. In addition to French, she said she learned English as a subject from grade three. The complexity of her technology-integrated meaning-making process captures a rich demonstration of literacy practices to understand the affordance and constraints of digital translanguaging.

The participant was enrolled in the MOOC subject titled Music is life-changing! She was an amateur pianist and stated that she enrolled in this MOOC subject mainly because she was interested in the course content. She also revealed that she was also keen on practising English while learning the content because she hardly had the opportunity to do so in everyday life. It was a short course running for six weeks, covering a new module each week. The student watched pre-recorded video lectures in her own time, and the instructor posted a weekly discussion forum, which was an optional task. This MOOC subject was for free and did not have the English language proficiency requirement (IELTS/TOEFL) or prior academic qualifications as a prerequisite for enrollment.

After selecting a multilingual participant, in the first phase, an initial online semi-structured interview was conducted to get to know the sociolinguistic details and other demographic information of the participant. In our second meeting, the participant was requested to select a discussion forum prompt assigned by her instructor and write a response in real-time via Skype, as the participant was based in Morocco and the researchers were in Melbourne. She was informed that she could draw on any meaning-making resources of her choice.

In the second phase, the entire writing process was video recorded using the screen-sharing technique. The video clips were analysed to trace the sequence of online navigation paths to identify online search strategies, such as keyword formulation techniques and quotation mark use, to solve her linguistic issues. This phase was fundamental in identifying the specific linguistic and digital resources the student employed to resolve her linguistic problem.

The third phase entailed conducting online stimulated recall interviews, one immediately after the writing task and two follow-up interviews of approximately 45 minutes. The Stimulated recall interviews (SRIs) revealed the rationale and decisions behind drawing on multilingual and digital resources (GT, bilingual dictionaries) and delineating the meaning negotiation process. The recall interviews were coded based on the 'communication goals' such as eliciting unknown words/phrases and delineating contextual meanings. The semi-structured interviews aided in clarifying any doubts and questions that emerged during the former stage to build a deeper understanding of her meaning-making practices.

The data derived through each phase were transcribed and analysed using digital translanguaging as an analytic tool. From a digital translanguaging perspective, it is important to focus on the joint affordances linguistic and digital resources offer for the learner rather than look at what each offers in isolation. In this study, the student mobilised multiple languages and digital tools to work through a lexical issue. Therefore, it was necessary to examine the joint affordances language and digital resources offered to grasp how she progressed until she reached a solution. Hence, we traced the online navigation paths to track the sequence of online lookups to capture how she built her knowledge of the lexical item in each successive search in constructing the meaning she intended to communicate. The final phase of analysis involved identifying the affordances and constraints despite harnessing the entire meaning-making repertoire.

4. Analysis and findings

This section is organised by providing a brief sociolinguistic profile of the participant, followed by a short description of the writing prompt and the response text undertaken during the task. Next, a deep analysis of her complex meaning-making practices has been provided, unpacking varied linguistic and digital

resources the participant harnessed and how she juxtaposed them during the writing process. The analysis is intertwined with the stimulated recall data to provide a rich and comprehensive account of the decisions underpinning her meaning-making practices. The section concludes with a summary of the affordances and constraints digital translanguaging offers for the writer.

4.1. The writing task: Question prompt and the response text
Maya chose to answer the question prompt given below the 6th unit of the Music is Life-changing! subject. The question consisted of three parts, as shown in Figure 1.

Figure 1. Discussion forum question for week 6.
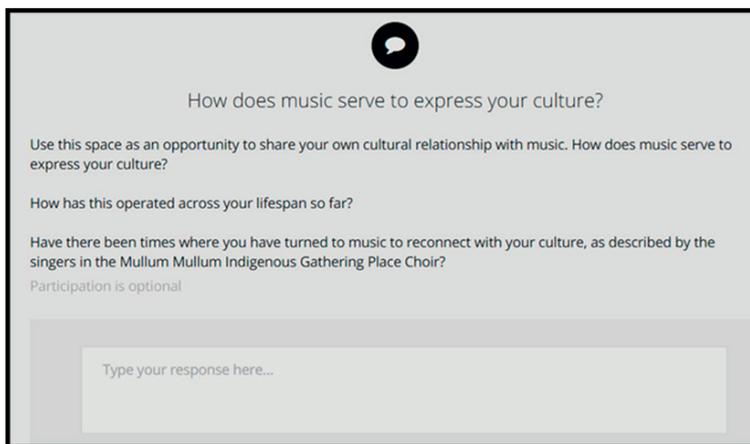
This question required Maya to write a self-reflective answer by sharing her thoughts and experiences about how music served to express her culture in light of the lectures and readings assigned for Unit 6 (see Figure 2).

Figure 2. Maya's response text.

During the writing process, she drew on two linguistic resources, French and English, and multiple digital resources, including an online bilingual dictionary and a language forum, to self-resolve a lexical issue she encountered. Her meaning-making process has been illustrated below.

4.2. Digital translanguaging practices: Delineating 'ranging from'
During her writing task, on one occasion, Maya paused for a moment after writing the sentence, 'And of course music does not escape the rule, we have different types of music depending on regions of Morocco from Gnawa music to Ahwach' (see Figure 3). Next, she opened a new browser on her computer and conducted an online search to elicit 'ranging from' as illustrated below.

Figure 3. Pausing just before looking up 'ranging from'
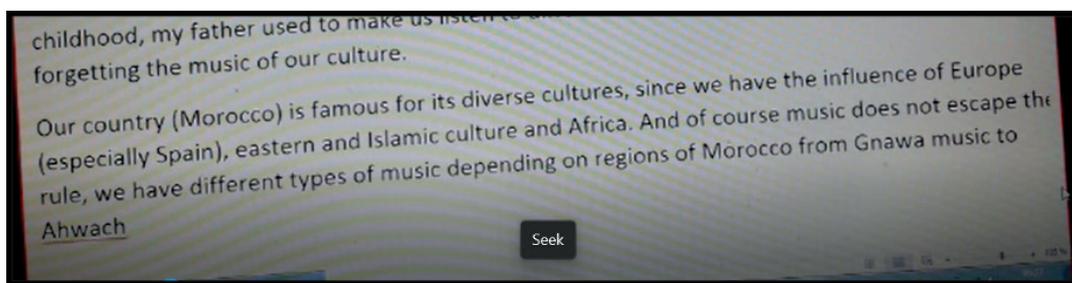
During the (post-writing) stimulated recall interview, when inquired about the reason for her online search, she explained that at the moment of writing, she did not recollect the phrase 'ranging from...to...', which she considered was more appropriate for her context but only remembered, 'from...to...'. In search of the missing phrase, Maya conducted three online searches in a row with three different search terms. When asked why she had to lookup three expressions to derive the phrase, Maya explained that it is a French phrase that does not directly translate into English. Thus, this meaning-negotiation process vividly captures the additional challenges and struggles some language learners must go through when delineating expressions or meanings that are not directly transferrable across or translatable to and from languages.

Her first move involved formulating an equivalent term in French, 'allant de jusqu'à' (from...to...) and looked up a bilingual dictionary called Linguee, hoping to derive 'ranging from' (see Figure 4). This demonstrates that she naturally turns to the stronger language, French, to learn corresponding features in

English. This aligns with the translanguaging perspective that posits multilingual speakers use similar features from their unitary repertoire to learn new features or, in this case, hard-to-recollect lexical items in English.

Figure 4. Searching for 'allant de jusqu'à' (from... to...) in Linguee (screenshot retaken in 2020)

Linguee is not an online translator but a sophisticated corpus-based bilingual dictionary that consists of two sections: a dictionary section delivering definitions bilingually in different language pairs (over 200 pairs) and another section called External Sources, providing a corpus of bilingual sentences consisting of search terms with a link to every sentence directing the reader to the original source from which that sentence is quoted.

Further, when asked why she used a bilingual dictionary, Linguee, instead of an online translator or a dictionary, she stated,

> Because it was an expression, it is difficult to find the translation for expression in dictionaries. I look at Lingee for translations, especially of a [sic] expression, not just words. Because words, it is easy to find translations even in Google. In Linguee, you find translations of complete expression [sic],

and you find it [sic] in the context. They give you lots of phrases where you have the use of this word and you choose the best one that suits you.

The dictionary section of Linguee confirmed her first point when it translated 'allant' as 'kick' (noun) (and the adjective form as 'vigorously'), which was not congruent with the contextual meaning 'from...to...' given under Linguee's External Sources. Maya's strategy of consulting example sentences in French and English in this specific dictionary indicates that it enables her to garner translations of expressions, the knowledge of which informs decision-making. As a multilingual speaker with little opportunity to acquire different layers of meanings attached to target language words and expressions (e.g., nuances, culture-specific and colloquial meanings and idiomatic expressions) through everyday interaction with native or proficient speakers of English, this example shows how online resources provide a target language-rich environment for language learners.

During the interview, when we inquired about the search outcome, she commented,

I read some examples in Linguee.com. It was not what I wanted. I didn't find the word 'ranging from', it was the word I looked for. 'From...to...' I know it already. I didn't find the right expression in French, so I tried a different phrase, 'allant de passant par'.

As such, she entered the new French term, 'allant de passant par' (ranging from...to...) in the search box. The search engine tweaked her expression and prompted several alternative terms from which she selected 'allant de...à ...en passant par' (ranging from) to browse through (see Figure 5).

Figure 5. Search results suggested by Google in response to the search terms 'allant de passant par'
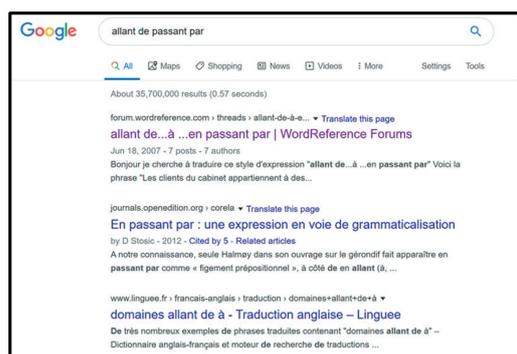
Accepting the first suggestion, Maya consulted a language forum hosted by the WordReference bilingual dictionary. Although Maya is producing a text in English only for her MOOC subject, her recurrent practice of drawing on French demonstrates that she considered it as a resource that eases her into academic discourses in English, her less proficient language. However, as alluded to earlier, this particular example shows that despite French being resourceful, it can be of limited value when some French expressions do not directly translate into or exist in English, which is true of any second or foreign language. Her time-consuming and rigorous effort to coin several search terms approximating the intended English phrase, sometimes assisted by Google prompts, makes us wonder how much further she can go for a successful outcome.

The language forum she browsed through provided a space to ask and answer questions related to language issues from a community of moderators who are either native speakers or highly proficient speakers in the languages they moderate (e.g., French/English, Spanish/English). Maya did not ask a question from forum members, but she instantly found an archived discussion thread related to her query that helped her resolve her linguistic problem (see Figure 6).

Figure 6. Threaded discussion titled 'allant de...à...en passant par' in the language forum hosted by WordReference.com

In this thread, Maya found the following post where a member had translated the 'allant de...à ...en passant par' as 'ranging from' (see Figure 7).

Figure 7. The forum post bearing 'ranging from', extracted from Figure 6

> Jun 18, 2007
>
> "...ranging from video game production to hand-writing recognition via Internet and telecommunication technologies"
>
> This preserves the metaphor at the expense of perhaps feeling slightly unnatural. An English writer might well have offered a double opposition: "ranging from A to X and from B to Z".
>
> **Mezzofanti**
> Senior Member
> Near Bordeaux, France
> Native speaker of pukka UK English

During the stimulated recall interview, when we enquired why she used a forum, she explained:

> In forums, human beings explain. This is why I want to use this forum. It is more helpful. When persons like [unclear] have the same problem, they give you the right translation that you are looking for.

Similar to her previous response on the choice of a corpus dictionary, this quote implies that Maya finds "human" translations more credible than machine-generated translations to avoid possible mistranslations. Although Maya runs into issues during writing due to her limited knowledge of vocabulary and lack of spontaneity, her capacity to build the missing lexical knowledge by tapping into her stronger language and an array of digital resources demonstrates that she is not disadvantaged as these provide affordances to compensate for her linguistic needs.

Although she was able to elicit 'ranging from' through the language forum, her search did not end there as she conducted one final search to verify the accuracy of this phrase. She entered the third French term, 'domaines allant de à' (ranging from), which was recommended by the search engine (see Figure 5) to browse through Linguee (see Figure 8).

Figure 8. Linguee search results for 'domaines allant de à' (ranging from)

Having confirmed the accuracy, Maya toggled back to the Word page to resume her writing, integrating it into her own sentence. This final search illustrates that Maya does not accept online linguistic information blindly without evaluating and verifying the accuracy.

In the larger study, Maya engaged in solving six similar linguistic issues and when asked how often she would come across issues when composing a writing piece, she commented by saying,

> We don't speak or write in English, it is very rare, we only speak some words, I use my English when I travel, and that's all and when I speak with you.

While her "very rare" use of English clarifies the reason for her lack of spontaneity and fluency prompting similar searches, when we inquired whether online searches like this help to remember words and phrases, or it is likely that you will look up the same words when you write a similar text again, she revelated,

> I think it helps us a lot. I learn new words, and I remember some words, just looking for them. Some words like ranging

> from, I won't look for them again. So, I think it is very helpful.
> But some words, yes, I forgot them [sic].

Her response shows that for a student like Maya, who is a medical student pursuing her studies in French, this way of implicit learning seems to help fill lexical gaps and retain some words in her memory, as suggested in, "I remember some words, just looking for them".

4.3. Summary of Maya's digital translanguaging processes

In sum, Maya's meaning-making experience reveals that she fluidly shuttles in and out of her second and target language (French and English) during online navigations and is capable of drawing on her own multilingual strengths to mitigate her lexical issues. Her choice of digital tools indicates her knowledge of various digital resources that suit different purposes, for instance, to derive contextual meanings and human translations as opposed to automatic and literal translations. Furthermore, her use of these digital resources demonstrates they activate different types of thinking in the process of meaning negotiation. For example, the bilingual dictionary activates not only her French and English but also her metacognitive skills of skimming, scanning, and evaluation required to process authentic bilingual sentences to decipher the contextual meanings. Her cognitive engagement shows that she does not take the easy way out by relying on or copying and pasting content uncritically but applies care in verifying accuracy through cross-checking for communicating the intended meaning to the level of accuracy she requires. Her meaning-making process illuminates that all the linguistic features complement and act as a stepping stone for learning new features. Even though her momentum of writing may be hindered due to lexical gaps, this experience shows that she is not dissuaded or disengaged as a result of the missing lexical knowledge. Instead, working in a low stake and low-anxiety environment, she engages in multiple attempts to learn by looking up new search terms and receiving immediate feedback on every effort. Thus, the ubiquity and the on-demand nature of digital tools and the affordances of her multilingual resources, in combination, motivate her to produce texts in English while still learning that language.

5. Discussion: Affordances and constraints of digital translanguaging

Although Maya's lack of spontaneity impacts the momentum of composing her text, her approach to mitigating the lexical issue suggests that she has an abundance of other resources to support her. Her way of drawing on her knowledge of French and English and digital skills enables her to learn words on her own, in a way that may not be possible in an offline environment.

Further, the literature has suggested that it takes years of learning to develop academic language proficiency (Duff, 2010; Hyland, 2019; Nation, 2003) to comprehend and communicate discipline-specific concepts and how this is a significant challenge for students whose L2 is still developmental. This situation is exacerbated in higher education contexts where lecturers provide content-specific feedback leaving students to figure out language-specific problems for themselves. In a context where the language demand is high, the ubiquity of online digital resources and their multilingual facilitation allows students to benefit through their stronger languages.

However, Maya's meaning-making process and cognitive engagement also reveal that the kind of linguistic information on which she built her vocabulary understanding does not warrant a comprehensive knowledge of the word/phrase. A comprehensive knowledge of a word, according to Nation (1990), consists of developing knowledge of eight elements, including meaning (denotations, connotations), grammatical behaviour, collocations (word associations), and register (formal, informal), among others. Although Maya's consultation of sample sentences retrieved from the Web and the language forum allowed her to make some sense of the meaning and use of the phrase in question, her practices raise questions about how much further she can go to expand all dimensions of vocabulary knowledge proposed by language experts (Larsen-Freeman, 2001; Nation, 2003; Nunan, 2015). That is, despite all her knowledge repertoires are activated with digital tools, in an English as a foreign language (EFL) environment with little or no contact with the target language, Maya can always encounter some challenges in learning how to use language in context without explicit support or guidance from a teacher or a more capable person. Having now learned about the participant's metalinguistic and metacognitive knowledges and digital translanguaging practices and processes, in the section below, we outline the implications for teachers of students like Maya when teaching vocabulary.

6. Pedagogical implications

This study provides insights into processes to assist multilingual students in learning a second language by tapping into their repertoire of multilingual and digital resources. Maya's process of vocabulary learning reveals that she mainly had to rely on example sentences and the advice from a language forum. The literature on corpus-based language learning has highlighted that corpus or sentence consultation entails "pattern-hunting" (Kennedy & Miceli, 2010, p. 31) and "discovery learning" (Chambers, 2005, p. 120), in the process of which incorrect inferences or hypotheses can be formed and internalised. The literature also indicates certain attributes, such as the target language proficiency level and the ability to cope with the high lexical load to determine the success of corpus consultation outcomes (Yoon, 2016). Considering the challenges involved in learning vocabulary by relying on example sentences, this study emphasises the importance of introducing specific digital tools which can support different aspects of language learning and providing learning training on how to use them for optimal benefits. For instance, reference resources dedicated to grammar and vocabulary teaching will help students grasp multiple meanings attached to words, learn verb forms, spoken form (how to pronounce it), register (suitability for formal or informal use) and collocations, details of which will inform them about how, when, where and with whom to use a word in real-life communication.

Maya's practice of learning new English vocabulary through French indicates the importance of activating students' metalinguistic knowledge by encouraging them to select linguistic features of certain languages that are similar to their target language. Likewise, our evidence indicates the need to encourage students to use their metacognitive knowledge of skimming, scanning, inferring, and evaluating to confirm the appropriacy of newly learned L2 features through cross-checking them with other digital tools.

In a similar vein, our study highlights the significance of teaching effective online lookup strategies to amplify learning in collaboration with digital tools. Maya's capacity to coin three corresponding search terms in French and experiment with the search engine's prompts enabled her to get at the phrase she intended. Formulating different search terms with a different combination of words, trying out different words in the same

word family (importance, important) (Herington, 2002; Lai & Chen, 2013; Li & Xu, 2015; Wuttikrikunlaya et al., 2018), and searching them in inverted commas to find an exact text match on the Web (Acar et al., 2011) are some of the practices that have a strategic importance in retrieving linguistic information most relevant to one's search.

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Digital poetry for adult English learners with limited education: Possibilities in language learning, literacy development and interculturality

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Abstract: *Studies on the role of digital technology in teaching and learning English tend to focus on secondary or higher education contexts and/or with literate or educated students. The recent global pandemic has highlighted the urgent need to advance digital equity and inclusion for adult learners with limited education and literacy. Despite their basic digital, language and literacy skills, classroom observations and studies have challenged stereotypes of this cohort of students' limited capacity for online learning (Pobega, 2020; Tour et al., 2021). This paper will discuss a digital literacy project which involved poetry writing using an online book creator app with adult learners with limited English print literacy skills. Moving beyond merely mastering the mechanics of digital technologies (Kern, 2015), this project was an exploration of how language classrooms can be set up as supportive spaces where adult English learners perform "social acts of meaning mediated by the creation of texts" (Bhatt, 2012). Drawing on their personal histories, the learners made connections with the people, events, and spaces, from their past and present, emphasising the need to focus on human connections in language learning and the development of digital literacy skills (Guillén et al., 2020). Through poetry as a familiar literary form, the project serves to expand and strengthen the epistemic contribution capability (Fricker, 2015) of English learners with limited education and print literacy skills.*

Introduction

As literacy skills and becoming literate are highly valued in Western formal education systems (e.g., Marrero Colón & Désir,

2022), it is unsurprising that beginners' English language classes primarily focus on mastering basic reading and writing skills. Phonemic awareness, phonics, fluency, vocabulary, and comprehension are integral components of early literacy instruction (Peyton & Young-Scholten, 2020), particularly supporting additional language learning and developing literacy skills for adult students with limited or interrupted formal education (SLIFE) (DeCapua & Marshall, 2011). Consequently, the expectations of academic and written output in these beginning classes are often low, which then perpetuate negative stereotypes of adult English language learners and limits the possibilities for them to achieve higher levels of English literacy. In light of online learning during the pandemic and recent technology-driven advancements, developing literacy skills is even more pertinent in today's digital society. Based on sociocultural understandings of language and literacy, as "people participate in social and cultural practices of making meaning for real purposes" (Green & Beavis, 2012, p. 63), this article will present a digital literacy project which provided rich opportunities for developing language and literacy skills of beginning adult English language learners through digital poetry.

This paper begins with the background and context for undertaking a digital literacy project with an adult beginner English language class in Australia. Next, I will explore a strengths-based approach in the classroom, combining poetry with the use of digital tools and technologies to enhance the language and literacy skills of adult English language learners with emergent print literacy. Finally, I will discuss the process and results before concluding with implications or recommendations for application in the adult migrant language classroom or further exploration in future research projects.

Learning English with adult beginner learners in Australia

This digital literacy project was undertaken with a beginners' class in the Adult Migrant English Program (AMEP), an English language tuition program freely provided in Australia by the federal government to newly arrived migrants and humanitarian entrants. The recent reforms have removed the requirement for learners to complete the program within a specific timeframe or entry point, enabling them to progress to a vocational English level (Department of Home Affairs, 2021). Students in this class project were from Afghanistan, Iraq, Syria, Ethiopia, Eritrea,

South Sudan, Nepal, China, Rohingya (Myanmar), the Philippines, and Brazil, and ranged from their early 20s to 60s. Our class survey revealed 15 languages represented in the classroom, with only two that used the Roman alphabetic system. Although some students were highly literate and well-educated in their home languages, there was a significant representation of adult SLIFE in our class, also called LESLLA (Literacy Education and Second Language Learning for Adults) learners, which reflects their growing presence in migrant language programs worldwide (Pentón Herrera, 2022). Impacted by globalisation and forced migration, LESLLA learners face the challenge of simultaneously learning a new language and developing literacy skills without foundational support from their home language(s) (Bigelow & Vinogradov, 2011). LESLLA learners are often positioned as deficient in Eurocentric social structures and educational systems due to their limited years of formal education or ability to articulate their knowledge and experiences in the dominant language (Fricker, 2007). Negative stereotypes often influence the discourse and pedagogical practices around adult language learners with limited print literacy skills. They may be viewed as not capable of learning (Fricker, 2007) due to their "slow" progress with mastering print literacy skills, their unfamiliarity with the structure and expectations in formal education settings, and their limited skills and engagement with technology (in the dominant language).

At the time this digital literacy project was undertaken, I had just begun my doctoral studies and was interested in anchoring classroom practice with pedagogical theory (Ladson-Billings, 2014). In the second term of the school year, my students expressed their frustration and unpreparedness for online learning after the previous school term abruptly ended with emergency remote instruction (Hodges et al., 2020). While one or two students indicated that another family member had a computer or laptop at home, most of the class accessed online learning through their smartphones. When they returned from the two-week school holidays, our class discussion turned to the importance of digital literacy in everyday communication and lifelong learning (DiLitE Project, n.d.). The students decided they needed to further develop their digital literacy skills, from familiarising themselves with the keyboard (typing), sending emails, or discovering other smartphone applications and functions. These class discussions indicate that adult English learners with limited education and

literacy are cognisant of the role of digital technology in language learning (Pobega, 2020; Tour et al., 2021). Adult learners with basic digital, language and literacy skills also desire and have the capacity for online learning.

Rather than decontextualised tasks, "busy work," or merely focusing on learning how to operate the tools in the computer room, I sought to frame this project, redirecting our focus on language, communication, and community. Based on a multifaceted "3D model of l(IT)teracy", the following elements were considered in this project: operational (learning how to operate digital tools), cultural (using language in poetry and digital skills for pleasure and making meaning), and critical (exploration of social identities and values; and providing opportunities for both consumption and production of texts) (Green & Beavis, 2012, pp. 64-65). The project sought to capture learner-initiated interest in mastering digital literacy skills and provide learners with opportunities to access and create familiar literary forms on screen, which is the contemporary "dominant space of representation" (Green & Beavis, 2012, p.62). In formal education, learners typically receive orientation and guidance on a broad range of literary forms, such as narratives, poetry, and essays. As narratives and poetry transcend formal and print learning environments, the project aimed to honor and value students' knowledge, memories, and experiences through these widely recognized forms of literature. The meaningful connections and interactions this project have generated in our classroom also reflect the sociocultural aspect of language learning.

Learning with a strengths-based approach
As the class mainly consisted of LESLLA learners, the Mutually Adaptive Learning Paradigm (MALP) checklist also provided a versatile frame for designing lessons and instruction (DeCapua & Marshall, 2022) that were responsive to learners' knowledge, experience, and ways of knowing (Watson, 2019). Teachers can design instruction and learning using MALP, a "culturally responsive instructional model" applicable to learning systems across the lifespan (K-12 to adult education), to support SLIFE in their transition to formal education systems while honouring their linguistic and cultural knowledge (DeCapua & Marshall, 2022, p. 131). A culturally sustaining pedagogy (Paris, 2012) is especially pertinent in multicultural Australia, where a monolingual and monocultural ethos persists in its migrant English programs

(Cummins, 2007; Hajek & Slaughter, 2014; Schalley et al., 2015). The digital literacy project considered the following aspects from the MALP checklist: accepting conditions for learning, combining processes for learning, and focusing on new activities for learning (DeCapua & Marshall, 2022). Firstly, working with our immediate conditions for learning included responding to students' initiative to familiarise themselves with technology; acknowledging and building on the strengths of learners' oral cultures; recognising poetry as an art and literary form, as well as a tool for imparting knowledge in various cultures; and connecting our lived experiences with the text from the reader series we were currently discussing. Next, I ensured the learners had opportunities to share and take individual responsibility in the processes for learning in the project. Given that some students had limited print and digital literacy skills, oral interaction was necessary to scaffold the written component. Scaffolding included dialogic exchange and transcribing students' responses to the poetry prompts. Students' epistemic contributions based on their knowledge and experiences were also honoured through collaborative learning (DeCapua, 2016) and in the exchange of their stories in the target language (Rodrigues, 2018). This digital project aimed to use students' full linguistic repertoire by considering what they can do in their home languages, not just the target language. Finally, although we were focusing on new activities for learning, the poetry component was accessible based on familiar language and content from the reader series and students' lived experiences, while the digital literacy activities were integrated into the regular classroom routine (DeCapua & Marshall, 2022).

Learning new digital literacy skills
Access to digital devices and network connectivity has been one of the greatest barriers in remote learning for many language learners and their families during the COVID-19 pandemic (e.g., Bonar et al., 2021). However, the dimensions of digital equity and educational inclusion must extend access (Resta et al., 2018) to meaningful, high-quality, and culturally relevant content in local languages; creating, sharing, and exchanging digital content; educators who know how to use digital tools and resources; and high-quality research on the application of digital technologies to enhance learning (p. 991). The various digital tools used in the project - smartphones, tablets, and computers - reflect the reality of everyday digital communication as seen and experienced in the

learners' daily interchanges. Our class discussion on the integral role of digital tools in everyday and transnational communication (DiLitE, n.d.) is unsurprising, considering a number of refugee-background students navigated their journey and reoriented themselves to a new life in their host and settlement countries through their smartphones (UNCHR, as cited in Drolia et al., 2020). The UNCHR report detailed how mobile phones served as tools for orientation, accessibility to information, availability of aid services, availability of education and linguistic resources, word/phrase translation in home languages, admissibility to labour markets and entrepreneurship opportunities, communication with loved ones in their home country (and other locations), socialising with the local population and other refugees, money transfer, interactivity with the host government, volunteer coordination and self-help aid services (Drolia et al., 2020). Considering students' experiences with and use of mobile phones, teachers and support workers for adult English language learners must use strength-based approaches by identifying and using material, cultural, and social assets that support and develop students' digital literacy skills (Tour et al., 2021). Strengths-based approaches include examining the ways students use digital tools inside and outside of the language classroom (Darvin, 2016), and incorporating digital literacy activities in the classroom that involve processing input, producing output, and are centred on human connections (Guillén et al., 2020, p. 322).

The impetus for this digital literacy project came from the students initiating their desire to become more familiar with technological tools. In the same way that literacy is not only about decoding and encoding graphic signs on either page or screen, learning new digital literacy skills also extends to "performing social acts of meaning mediated by the creation of texts" (Bhatt, 2012, p. 290). Learning to operate the tools was only a part of the project, as we needed to focus more on what we do or make with these tools (Kern, 2015). Activities designed for mobile assisted language learning (MALL) have tended to be teacher-centred exercises where learners are limited to prompted feedback based on closed-item assessments (Pegrum, 2014). The challenge is to design activities where language learners can use digital tools to "access authentic target-language materials" (content), "produce language for an actual audience" (creation) and "solve problems and bridge communication gaps together in real-time" (communication) (Pegrum, 2014). Based on this understanding of

digital literacy, we began our project by accessing prior knowledge and foregrounding the project based on our collective understanding, experiences, and purpose for developing our digital literacy skills. Through the surveys, the class and small group discussions that followed, students articulated their learning goals in the classroom for out-of-school applications. These goals included identifying the tools they would like to familiarise themselves with, such as learning games or accessing online government services. We discussed how various digital tools enable communication with friends, families, and institutions such as our language school, their children's school, banks, or various government departments. We also discussed how our technological tools strengthen our connections to ourselves (identity), to the class (learning community), and our social networks (often beyond our local community). The learning activities for the project were chosen based on their potential to connect language learners to their environments and a much more diverse set of people, stories, and environments (Vanek, 2020). Thus, technology combined with poetry provided "new opportunities for representation, construction and performance of multiple identities" (Darvin, 2016, p. 525), and we noticed that language and literacy in English were not barriers to participation or contribution in our communities.

Using multimedia poetry with adult English language learners

As English language learners often come from cultures whose knowledge and ways of knowing are not limited to the written word or the typical constraints of education in the classroom, there is a need to involve and integrate meaning-making through "storytelling, poetry, metaphor, myths, ceremonies, dreams and art" to engage and effectively support adult learners with emergent print literacy (Graveline, 2005, p. 308). While poetry can seem like a high form of literature, it is, in fact, an old and "beloved feature of oral cultural educational practice" (Watson, 2019, p. 217). Often committed to memory, elders and poets conveyed history and values to the community through poems using dramatic speech, "rhythmic qualities, repeated and formulaic expressions, and rhyme schemes" (Watson, 2019, p. 217). The role of poetry in developing students' language and literacy skills is often overlooked in the classroom. Pedagogical practices have been influenced by traditional approaches, which often involve decontextualized instruction and activities that focus solely on linguistic structure

and grammar (Mickan, 2023). Yet, poetry can provide purposeful, playful, and accessible opportunities for exploring language, words, and meaning (Beaumont, 2022). Using a 'right-sized' poem that is brief yet rich in content is manageable for adults with limited print literacy skills (Dutton & Rushton, 2021). Poetry in the English language learning classroom enables personal exploration and multimodal representation of language and identity and supports learners' agency as they choose content from their memories and lived experiences to create poems (Dutton & Rushton, 2021). Poetry writing as an "interim discourse" also provides safety and latitude for English language learners to explore conventions of the language before moving to more "academic discourses" (Dutton & Rushton, 2021, p. 110), as demonstrated by select refugee-background students in primary and secondary schools in the UK (Assaf & Clanchy, 2018). Poetry offers opportunities to recognise and integrate learners' languages, cultures, and lived experiences as rich funds of knowledge (Rios-Aguilar et al., 2011) and pedagogical resources for learning (Bhatt, 2012; Burke & Hardware, 2015). The process of poetry writing encourages and promotes epistemological contribution (Fricker, 2015) from adult English language learners. Poetry writing then challenges deficit discourse perspectives and approaches and "help scholars and practitioners learn from and not merely about (adult English language learners)" (Ladson-Billings, 2014, p. 76).

Poems in process
Throughout the various stages of poetry creation, which included sharing experiences through small groups, co-drafting the poem with the teacher, and then individually working with technology, there was targeted, scaffolded, and oral interaction interspersed with engagement with the written word. The process took place over the course of a ten-week school term, taking into account student attendance, curriculum requirements, and assessment periods. Based on our text, "A New Life" by Withers (2015), a story of a refugee resettling in Australia, our classroom discussion topics throughout the term centred around our names, languages, and childhood memories. The students found the text highly relatable as they faced the same struggles settling in a new country. Students who were literate in their home language(s) welcomed the challenge of reading the text independently, while it was primarily used as a read-aloud for the LESLLA learners. Since the

complex nature of narratives contain too many elements that could be a barrier for learners with limited literacy skills, creating poems based on a model narrative text was a more manageable and accessible approach to developing their literacy skills.

Literacy workstations are a regular part of our class routine as they provide space for independent work and collaborative learning through pair work, small group, or one-on-one time with a volunteer tutor or teacher. Throughout the term, the model narrative text was used as a regular read aloud to the class, but students also exercised their autonomy to read or do extension activities with a volunteer tutor at the literacy workstations. Midway through the term, I introduced and read aloud a couple of poems in small groups and touched on the different format or structures of the texts we were reading in class. A student showed they understood the concept of poetry by using gestures as if reciting a poem aloud. We highlighted the rich details from the poem 'I cannot remember my mother' by Rabindranath Tagore and noticed the sensory language in 'The Doves of Damascus' by Ftoun Abou Kerech (in Miller, 2019). By deconstructing the poems and discussing the sensory language and imagery used in our model poems, we gained an understanding of how careful choice of words helps our listeners or readers place themselves in the locations they were describing. Translanguaging was a key strategy used by students who could discuss and clarify the terms and concepts in their language with other students. Translanguaging, or using students' full range of linguistic repertoire or resources for communication, facilitates the exploration and discussion of poetry and provides support for writing in the English learning classroom (Dutton & Rushton, 2021; García & Kleifgen, 2020).

Selecting texts that are culturally relevant and cognitively appropriate for LESLLA learners is not an easy task. The model narrative and poetry texts in this digital literacy project were chosen as they were based on familiar language and content highly relatable to the learners' lived experiences. The model narrative text especially explores the experiences of a refugee-background student who describes her challenges journeying, settling, and adapting to a new language and country. Thus, the poems I selected included phrases about remembering a special place. When we tried to explain to a Syrian student the stylistic choice of the phrases "I do not remember" or "I sometimes remember," she protested with, "But I remember everything!" While sharing memories about a particular place is challenging as

most refugee-background students may have traumatic experiences during their journey, a culturally competent teacher creates a safe and trusting learning environment where learners can share their lived experiences (Gay, 2018; Ladson-Billings, 2009). The process of writing poems was not designed to "solicit trauma stories" but to provide a welcoming space to "receive them when they arrive" (Montero & Al Zouhouri, 2022, p. 86). Poetry enabled the students to talk about their hometowns, focusing on positive memories rather than trauma stories (Montero & Al Zouhouri, 2022). The laughter and excitement of two Arabic speakers in the class was evident as they started reminiscing about their childhood experiences, remembering scents, tastes, and events (from what I could gather from gestures accompanying the exchange of stories).

Oral interaction was an integral part of the scaffolding in the poetry writing process (DeCapua & Marshall, 2022). With students assigned to literacy workstations as a regular part of our class routine, I used this dedicated time in the project to focus on individual students, checking their understanding, and drafting together their poems. Co-creating and reviewing the poems took approximately two weeks. One student, whom I was sure would need more guidance in this activity, in fact, reflected on many significant memories: a landmark, landscapes, everyday scenes and special occasions that filled her mind. The contrast of social identities demonstrates her critical engagement with our model narrative text.

> I cannot remember how many years have gone
>
> Since I smelled *abebe* on the roads of Addis Ababa
>
> Sometimes I remember eating delicious roasted corn
>
> Any time of the day
>
> The crabs on the beach
>
> The smell of fish
>
> That I just caught and cooked
>
> I am sure I remember climbing the big rock
>
> As a child and I can see all of the city
>
> The whole country
>
> I can see farms and a lot of trees
>
> I can see the sunflowers

> I hear the people singing and dancing in my aunty's wedding

> Now I don't dance at all

After we worked on the draft together and I read this poem to her, the recognition in her eyes was unmistakable. "I remember," she says, "I remember my country." Although still developing her print literacy skills and proficiency in the dominant language, her poem represented distinctive knowledge and perspective to contribute to our learning community.

With a more purposeful reason for using digital tools, students engaged more deeply in our weekly technology sessions. Later in the term, strong writers independently drafted their poems while I transcribed the initial draft for students with emergent print literacy skills. The students then typed their final drafts onto an online book publishing application using the class tablets. BookCreator (https://bookcreator.com/) allows students to read, create and publish multimodal books with a basic free account. The program is accessible on networked computers, tablets, or smartphones, but due to limited digital skills, tutor support, and time, we focused on the main task of typing their poems using the class tablets. Interestingly, students' logins to the application involved using QR codes (https://www.qr-code-generator.com/), which inadvertently gave practice for the students to use this technology required at the time for contract tracing purposes. The anthology was then collated and distributed in print and email, as well as providing time for students to read their poems to the class in the final week of the term. Publishing their poems online (https://tinyurl.com/5fate6za) and contributing to the anthology extended their participation in digital spaces beyond the classroom.

The resulting poems were highly personal statements beyond the formulaic descriptions of their country of origin. Mundane daily activities came to life. Furthermore, the poems promoted intercultural understanding and dialogic exchange, allowing our class to discover and discuss the similarities and differences between their cultures and others. Learners were positioned as experts of a specific locality, rather than a broader region or country, thereby leading to a stronger contribution to the learning environment and a more inclusive classroom. For example, we discovered customs such as the prohibition of selling and eating beef in Nepal. We marvelled at being able to watch the sunrise or the evening sky from roof gardens in Iraq. We reflected

on the importance of relationships, such as the student who remembers her mother washing her hair by the river and then braiding it in Eritrean style. Another student from China remembers flying kites he made with his father. An excerpt from another poem reinforces the centrality of food in relationships (commensality) in many of our cultures:

> Sometimes I remember
>
> The noodle soup my mother cooked
>
> The chocolate ice cream I bought for my children
>
> Coffee and smoking and talking with my husband.

We learned about the role of pets or animals in students' childhood years, such as "riding baba's camel" or being made to "sleep with the chickens when I don't listen to her (grandmother)". Another student's poem, surprisingly, revolved around the domestic animals inside her home, extending to wildlife outside the safe confines of her home. She also subtly reveals the centrality of a water source in everyday life:

> I am sure I remember...
>
> The elephants drinking in the Blue Nile
>
> Everybody swims in the river
>
> But be careful
>
> Don't get eaten by the crocodiles or the snakes

An incidental digital learning activity also resulted from students wishing to locate their hometowns on Google Earth. The multimodal maps provided additional images and videos they could show their peers. The students further established a solid connection to these physical spaces by describing in their poems: "the smell of bread from the bakery on my street" or "the smell of the ground when it rains". With diverse digital tools and applications explored in the project, we gained a deeper understanding of how technology can strengthen our connections to our identity, others in our learning community, and beyond our local community.

While we extended our understanding of language and literacy through the project, there were also considerable limitations. School terms in Australia average around ten weeks, and our AMEP classes run for about five to six hours a day for three days. Instruction time is then divided between the teacher

and, in most cases, a different tutor. Early literacy instruction alongside an assessment-driven pedagogy and curriculum (Pentón Herrera, 2022) tends to be the priority in the classroom. Additionally, as I did not share many of the languages in the classroom, the students needed to rely on each other and the translation applications on their smartphones for some of the concepts we discussed. However, taking the local context and students in the classroom into consideration, there are many possibilities for extending the learning activities in this digital literacy project. With sufficient time and resources, teachers can use poetry as a valuable tool for developing language and digital literacy skills of LESLLA learners.

Implications and recommendations

This digital literacy project has shown that literacy activities need to incorporate purposeful, integrated, and contextualised activities. For this project, students needed to combine the operational, cultural, and critical elements of developing digital literacy skills (Green & Beavis, 2012). The project allowed students to learn and familiarise themselves with diverse digital tools for various purposes such as meaningful online typing practice (typing.com), mastering log-in and manipulating basic tools in the online book publishing program, negotiating meaning through their language translation applications, and navigating online maps. The project also allowed the exploration of two text types: narratives and poems. Students demonstrated varying levels of interaction with language and (digital) literacy, from reading, to designing and producing text using paper and screen mediums. Poetry writing required students to learn and understand the structure and language used in poetry, such as sensory language, rhythm, and repetition. Poetry acted as a medium of possibilities rather than a gatekeeper, with students not limited by their English proficiency or (digital) literacy skills. In addition, poetry allowed the exploration of social identities not bound by place or time. By fostering collaboration between students, teachers and tutors and working within the constraints of instruction time, material and personnel resources, and learners' language and digital literacy skills, the exploration of digital tools and poetry enabled students' identities to be honoured and positioned as an expert of a specific location. Poetry writing challenged and extended the stereotypical classroom-assigned language learner identity of adult learners with emergent print literacy. Further research or digital literacy

projects in the classroom can examine more closely the importance of strengths-based approaches that draw on learners' languages, lived experiences, knowledge, and ways of knowing. Future research projects can also explore how poetry writing as a digital literacy project can foster belonging and community, build intercultural competence, and encourage the participation of adult English learners with limited education in social spaces.

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Book reviews

CREATIVITY & CRITIQUE IN ONLINE
LEARNING: EXPLORING AND EXAMINING
INNOVATIONS IN ONLINE PEDAGOGY
Palgrave Macmillan
Baxter, J., Callaghan, G., & McAvoy, J. (2018)

Elizabeth Gunn
Royal Melbourne Institute of Technology,
College of Vocational Education.

In early 2020, Australian education moved rapidly to online teaching to help contain the spread of Covid-19. This shift led to a crash course in online education for many adult EAL educators. I had been teaching in various post-secondary EAL contexts for quite some years, yet my knowledge of online pedagogy was scant. Like many educators, I found the move a stimulating experience.

Two years on, we have come to see online learning as integral to education. For this reason, *Creativity & Critique in Online Learning: Exploring and Examining Innovations in Online Pedagogy* is a useful companion for EAL educators wishing to expand their knowledge and practice of learning online. Tips and discussion points at the end of each chapter add to the volume's accessibility.

This volume of 10 case studies, drawn from UK distance education provider The Open University (OU), is a multi-faceted examination of online learning in higher education. The case studies coalesce in their support for social constructivist approaches to education, conceptualising learning as a participatory, communal, experiential, and agentic endeavour. Etienne Wenger's notion of 'community of practice' is employed throughout to define the volume's key theme of 'learning community'. From this fundamental understanding of learning as a social practice, three sub-themes emerge; online forums as trust-building, asynchronous spaces for collaborative learning; informal learning and the use of digital technologies to build teacher-learner connections; and the importance of identity formation in shaping teachers' and students' experience of online learning.

Chapter 2 critically positions online learning in relation to neoliberal trends of increased marketization and technologization. This chapter acknowledges the tension in education of needing to engage with continual technological 'innovation' alongside fulfilling education's human, nurturant, socializing functions. Baxter et al. allay this tension arguing that theories of learning, from behaviourism, cognitivism, constructivism, and more recently connectivism, are ripe with features that support online teaching pedagogy. This is expounded further in the ensuing case studies.

Chapter 3 looks at the design of online forums in developing academic communities of practice. It recommends that the purpose and relevance of forums be clearly conveyed and discusses different ways to promote students' active participation. Motivated by the importance of teamwork as an employability skill, Chapter 4 explores how online forums facilitate peer collaboration. In this case study, students are required to contribute to written chats with peers to produce an artefact or solve a problem. Chapter 5 examines the use of social media platforms as informal learning spaces that can foster student-teacher relationships and academic communities of practice. Chapter 6 is inspired by employers' calls to develop creativity. It considers how students' production of multimodal or 'multisensory' texts, such as digital audio recordings, presentation slides and photographs, develop this employability skill in online learning contexts. Chapter 9 evaluates OU's annual voluntary, informal *Student Connections* conference, a series of livestreamed interactive events aimed at developing a sense of community among OU students and educators.

These five chapters are relevant to adult EAL teachers in that they provide numerous insights into the vital importance for learners to be skilled in understanding and producing informal, collaborative and multimodal texts. In Chapter 4 for example, students are evaluated on their written participation in peer co-constructed knowledge building activities. Yet the linguistic challenges of informal and collaborative text writing, and their potential for excluding plurilingual students, are not mentioned. I found this alarming, but not surprising. Nevertheless, it points to the paramount importance for EAL students to learn and practice informal and collaborative writing. In addition, comprehension and production of multimodal texts is another area of the EAL curriculum that is likely to need more attention.

The refreshing autoethnographic style of Chapter 11 invites professional reflection, about values, identity and relationships in online contexts, through its use of first- and second-person narrative perspectives. This chapter would make an excellent discussion paper for a community of educators wanting to explore issues raised by the sudden transition to online learning, covering topics such as disembodiment, increased technologization, bonding with students, social connectedness, opportunities of blended delivery, self-efficacy, personal values and professional identity in online learning.

Chapters 7 offers suggestions for minimising academic cheating. The task of boosting students' awareness of academic integrity seems to be diligently covered by EAL teachers in my experience. But for those seeking more knowledge, this chapter contains updates about technological innovations in perpetrating and combating academic cheating. Chapters 8 and 10 look at managing Massive Open Online Courses (MOOCs) and large-scale module teaching teams respectively. These will be relevant to EAL educators working in large-scale distance education contexts like the OU. Finally, Chapter 12, written by department head Diane Preston, outlines the case for recognising teacher identity, building peer support, clarifying expectations, and challenging notions of teacher resistance in managing educators' transition to online learning.

Online learning is ubiquitous. It also holds the risk of isolation. Building plurilingual students' capacities for successful participation in online learning communities is therefore vital. This volume draws our attention to the importance for EAL learners to have access to highly-skilled online learning facilitators. It also points to the importance for EAL teachers to have the scope to apply their linguistic expertise in developing learners' collaborative communication skills across a range of text types. And finally, this volume shows that EAL educators need adequate technological resources to create the online communities where adult students will learn to thrive and participate in the future.

Book reviews

MULTILINGUAL COMPUTER ASSISTED LANGUAGE LEARNING
Multilingual Matters
Buendgens-Kosten, J. & Elsner, D. (2018)

Xuan Li
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Multilingual Computer Assisted Language Learning is a volume of studies on a new methodology and pedagogical approach that combines multilingual and digital technology strategy to support (English as a) second/foreign/additional language learning and teaching. The editors, Buendgens-Kosten and Elsner, are professors at the Goethe University Frankfurt in Germany. The editors put forward a view that, for multilingualism, the two or more languages are co-existing or co-present; all the languages and any kind of language competence are meaningful for them within and without language learning contexts. The editors emphasise an essential need for viewing language use and language learning from a multilingual perspective to respond to today's linguistically diverse world. The editors also recognise the important role of digital media in daily life and in language learning and teaching. Following the 'multilingual turn' in language education (Conteh & Meier, 2014; May, 2014) and building on the concept of CALL (computer assisted language learning), the editors coin the term Multilingual CALL (MCALL) to highlight the purposeful integration of more than one language in CALL contexts. According to the editors:

"Multilingual CALL is the study and practice of language learning with digital media in non-monolingual contexts or settings or using non-monolingual media. This may involve the use and/or activation of native language(s), previously studied language(s), heritage language(s) or dialect(s). Multilingual CALL can be multilingual due to the multilinguality of learners, due to the multilinguality of group of learners (including telecollaboration or CMC settings) or due to the multilinguality of teaching material/tasks."

Using the Multilingual CALL approach to language learning and teaching is the key theme of this book. Contributors include researchers as well as practitioners in (English as a) second/foreign/additional language learning, TESOL, Content and Language Integrated Learning (CLIL), and bilingual education from Germany, United Kingdom (UK), the Netherlands, the United States (US), and New Zealand. They demonstrate various ways of using Multilingual CALL approach to language learning and teaching in different settings and contexts for different purposes.

The digital media discussed in the studies involve chat rooms, computer games, digital stories and eBook apps, online texts, telecollaboration via interactive whiteboards, online communication vehicles such as Facebook, home-made videos and cartoons, and tablets. Participants include learners from kindergarten to university in settings from classrooms, after-school clubs, to informal online practices. Languages referred to comprise English, Russian, Romance languages, German, French, Japanese and Spanish.

The book is divided into five sections, comprising 13 chapters, plus an introduction by the editors and concluding remarks by Gabriela Meier from the University of Exeter in UK.

In Multilingual Call: Introduction, the editors discuss the concepts of multilingualism and CALL, stressing the need for a 'Multilingual Turn in CALL', and introduce the concept of MCALL and chapters.

Part 1, *Multiliteracies and MCALL*, comprises two chapters (Chapters 1 and 2), exploring MCALL from theoretical perspectives with focuses on developing multiliteracies in digital environments.

Part 2, *Multilingual Texts*, consists of five chapters (Chapters 3 to 7), investigating the use of multilingual digital texts from multimodal apps and the use of authentic academic texts in students' home languages. The integration with content learning and students' language use strategy (e.g., code-switching) are also discussed.

Part 3, *Intercomprehension and CALL*, consists of two chapters (Chapters 8 and 9), examining the roles of MCALL in enhancing metalinguistic awareness and facilitating intercomprehension among students with different mother tongues.

Part 4, *Multilingual Online Exchange and Telecollaboration*, comprises two chapters (Chapters 10 and 11). Studies in this section shift the focus to online communication among distant

learners/users with different mother tongues in both formal and informal contexts, exploring the role of MCALL in promoting the development of plurilingual competence.

Part 5, *MCALL and Professional Development of Teachers*, consists of two chapters (Chapters 12 and 13), highlighting the important role of teachers in creating multilingual learning environments and examining the value of video analyses in teacher education in English as a second language and/or English as a foreign language (ESL and/or EFL).

In *Concluding Remarks, Learning in Multilingually and Digitally Mediated Spaces: The MCALL Approach*, drawing on findings from the 13 chapters, Gabriela Meier discusses opportunities, challenges, limitations, and implications of the MCALL approach to language learning and teaching and suggests directions for future research in this field.

The 13 chapters together provide rich resources and sample tasks as well as valuable evaluations and thoughts on the MCALL approach and show how teachers can use the MCALL approach to support (English as a) second/foreign/additional language learning and teaching in multilingual contexts and in professional development. The chapters illustrate 'a special relationship' between multilingualism and CALL. As Meier points out that recognising the new ways of communication and learning in today's multilingual world, the MCALL approach offers a pedagogic response to recent linguistic and technological developments in language education.

One of the great values of the MCALL approach reflected in the book is that the MCALL approach validates multilingual students' home language(s) as learning resources. This is particularly important for multilingual students from immigrant families. Viewing multilingualism from a more contemporary holistic lens, the MCALL approach engages students using their whole linguistic repertoires to enhance language learning. It also facilitates opportunities for students to promote autonomous learning and deep learning of (English as a) second/foreign/additional language. In this regard, the MCALL approach reflects a radical shift from monolingual to multilingual language pedagogy in second/foreign/additional language learning.

In summary, this book greatly contributes to the emerging field of MCALL that combines multilingualism and CALL. The book offers rich sources, valuable thoughts, and great inspiration to researchers, practitioners, and preservice teachers in language education (including ESL/EFL and TESOL).

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Book reviews

AUTHENTIC VIRTUAL WORLD EDUCATION: FACILITATING CULTURAL ENGAGEMENT AND CREATIVITY
Springer.
Gregory, S., & Wood, D. (2018)

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The introduction starts with an interesting musing on Garter's Hype Cycle (2017), a model where initial interest in a concept is marked by some ambivalence, progressing to a stage of inflated expectations, followed by the trough of disillusionment and, finally, the slope of enlightenment and plateau of productivity. The reference serves to contextualise the field of education and its relationship with technology, and I found myself returning to the model multiple times as I progressed through the book.

Drawn from a diverse range of disciplines, the book makes particular reference to one platform, Second Life, to provide examples of the potential for VR software to achieve certain educational goals. Of course, VR resources are available to certain students in certain privileged contexts so this is not a discussion intended to be inclusive of all learning contexts, and yet, given the events of the last few years, online learning (and hybrid models) are clearly here to stay and so exploration of this topic is probably more pertinent than the authors knew when the book was published in 2018.

Second life has much in common with the kind of multi-player games that have been popular for some time but I have chosen to side step a discussion on gamification and have referred to Second Life as a 'platform' rather than a game, as is ostensibly common practice. In short, it is software that allows the user to choose an avatar and to interact with others; it has been around for almost twenty years; and, to be fair, the quality of its images is objectively impressive.

On the surface, this would seem to offer an abundance of opportunities to create engaging learning experiences for students. However, the scope of the book gleaned from the title is cultural engagement and creativity, and I have tried to limit my discussion to these goals. In one chapter, students were able to visit natural environments in the virtual world to learn more about conservation and, in another, hazardous environments are recreated to give learners virtual experience in disaster response. However, of more interest for the ESL teacher are the units dedicated to intercultural competence in communication and to communicative task-based learning.

The central argument for the use of VR in educational contexts appears to be that a generation raised on virtual reality games cannot or will not find a traditional classroom setting engaging and, therefore, cannot learn there, or some variation on this. However, the book does not address this argument directly. Instead, the book largely takes it for granted that questions such as this are settled and explores ways that the use of VR can be justified to achieve a range of pedagogical goals.

To me, this was exemplified in chapter 7, where students go shopping and visit a doctor in a (virtual) traditional Chinese setting. Again, the assumption that a seemingly conventional communicative activity is intrinsically more engaging than those constructed in language classrooms is treated as self-evident. And perhaps there is some truth to these assumptions as regards certain learner age-groups, but I personally would like to have seen greater focus on how and why the approaches summarised met the requisite pedagogical outcomes.

In chapter 5, the writers posit a number of claims that, roughly summarised, argue in favour of individualisation in education achieved through virtual reality experiences. I personally got the sense that many of the claims made to support this position were unsupportable, but that aside, I was genuinely interested in the potential for this technology to offer students experiences that might not be available in the real world. And yet experience tells me that the claim that VR experiences might replicate real-world linguistic interactions relies on a number of factors that are not necessarily explored. However, I found myself overlooking some of the problematic aspects of this chapter. For example, the assertion that "It is simple to equip existing learning spaces with state-of-the-art technology", precedes an

acknowledgement that "it is not a simple process to use the technology to improve the learning", which should go without saying but is a perspective I wanted to read more about.

In chapter 6, and situated within the context of established VR educational technologies (flight simulators and the like), the writers caution that a conceptual framework is needed to provide rigour to feedback provided from performance on VR tasks. Within this context, they assert that the skills development achieved through the authenticity of the tasks themselves eclipses the importance of, for example, the realism achieved through graphic representation. The Taxonomy of Human Skills that they describe is useful when conceptualising how these skills development tasks are devised, used and their usefulness critiqued. Clearly, this is an approach that could and should be expanded to cover linguistic and other learning outcomes and to guide the development of tasks that incorporate VR in the future. I found this chapter to be useful and thought provoking. However, the rigour demonstrated in this chapter highlights the lack thereof in other parts of the book and I have many remaining questions about whether adding a VR aspect to a traditional communicative language activity contributes significantly to pedagogical gains in and of itself. However, to be fair, I can see no evidence of why it might not promote engagement in the attainment of rigorous pedagogical goals within carefully crafted lessons that make use of this technology.

It is at this point that I find myself returning to the discussion of Gartner's (2017) "Hype Cycle" in the opening chapter and concluding that those who are already enthusiastic about the potential for virtual reality to achieve big gains in student engagement and consequently pedagogical outcomes will likely find a lot to get excited about in this book, with relatively straightforward ways to use the software to give students experiences beyond the fabled chalk and talk but, equally, those either ambivalent or disillusioned about the potential for this software to achieve real pedagogical gains will be left asking questions that are never addressed.

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Notes for contributors

- It is understood that articles submitted to TESOL in Context have not been previously published and are not under consideration for publication elsewhere.

- Articles around 6,000 words including references are preferred, and an abstract of up to 200 words should be included with each article submitted.

- Electronic submission as attached files is required (Microsoft Word or rich text format).

- One file should contain a separate cover page with the article's title, the names of the author/s, their preferred titles, and the contact details for the author to whom correspondence should be sent (address, telephone numbers, and email address). About 70 words of biographical data should also be included.

- A second file should contain the title followed by the abstract, the body of the paper and the list of references. Number the pages but do not use identifying headers or footers.

- Headings and sub-headings should be left aligned, with the first letter capitalised.

- Indicate new paragraphs by using one extra line space.

- Text should be Times New Roman, 12 points, with 1.5 spacing.

- Short quotations should be incorporated into the text and enclosed with double quotation marks.

- Quotations of more than about 40 words should be set off from the main text by indentation, without any quotation marks.

- Referencing should follow the APA referencing style; for examples, see a recent issue of the journal at http://www.tesolincontext.org.au/.

- References in the text should be ordered alphabetically and contain the name of the author and the year of publication, e.g. (Adams, 2001; Jones, 1998). For direct quotations include the relevant page number(s), e.g. (Jones, 1998, p. 34).

- Tables, figures or diagrams should be numbered consecutively and included in the relevant part of the text. Each should have an explanatory title.

- Numbers up to and including ten should be spelt out and numbers over ten should be expressed as figures.

- The spellings used should be those given in The Macquarie Dictionary.

- All articles submitted are subject to blind, impartial refereeing; referees are asked to report against the following criteria:

  * The topic of the article is of relevance to readers of the journal (see ACTA Statement at https://tesol. org.au/publications/#publications-1).

  * The article is grounded appropriately in relevant published literature.

  * The article's claims/conclusions are based on rigorous analysis of primary data and/or well-supported argument and/or analysis of teaching practice.

  * The article is well structured and clearly linked.

  * Language use and style are appropriate to the audience and purpose.

  * Notes for contributors have been followed in all respects, including consistent use of APA style.

  * The article has potential to make a worthwhile contribution to the TESOL field.

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Mission statement

ACTA is the national coordinating body representing all teachers of English to speakers of other languages. It aims to promote and strengthen English whilst supporting people's linguistic and cultural heritage. English is the language of public communication and the lingua franca for the many different sociocultural groups in Australia, as well as a major language of international communication. For full and effective participation in education, society, and in the international arena, competence in English is necessary.

TESOL is the teaching of English by specialist teachers to students of language backgrounds other than English in order to develop their skills in spoken and written English communication. At the same time, TESOL teachers strive to be sensitive to the diverse linguistic, cultural, and learning needs of individuals.

TESOL draws on a knowledge of the nature of the English language, first and second language acquisition, crosscultural communication, and appropriate curriculum, materials, and methodology for multicultural contexts. It is an integral part of the broader social, educational, and political context. It can inform and be informed by this context.

As a program, profession, and field of study and research, TESOL shares certain understandings and practices with the subject English as a mother tongue, child and adult literacy, languages other than English (LOTE), and bilingual and multilingual education, but also has distinct characteristics.

ACTA's objectives are

To represent and support the interests of teachers of English to speakers of other languages ACTA is committed to quality teacher training and professional development in TESOL and working conditions and career paths which enable teachers to have the stability and continuity of employment to develop, maintain, and deliver quality programs.

To ensure access to English language instruction for speakers of other languages ACTA is committed to ensuring that all students with ESL needs have access to programs that acknowledge and meet their diverse specific needs.

To encourage the implementation and delivery of quality professional development programs ACTA is committed to the development and maintenance of the highest quality programs for students at pre-primary, primary, secondary, and tertiary levels that are appropriately funded, resourced and staffed, and articulated in clear pathways.

To promote the study, research, and development of TESOL at state, national, and international levels ACTA is committed to ensuring that TESOL and TESOL related issues are debated and accorded due recognition in state and national policy initiatives as well as in the international community.

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