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Transforming Language Learning Engagement in Higher Education via E-Learning

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Stephanie Larry Daniel

Senior Lecturer, Centre for University Courses and Innovative Learning (UCIL), University of Technology Sarawak, Sibu 96000, Sarawak, Malaysia.
E-mail: stephanie@uts.edu.my

ABSTRACT

The widespread use of technology has significantly impacted education, particularly in higher education, with the Internet enabling the feasibility of online learning. Researchers and educators are increasingly focused on enhancing student language learning through online courses, aiming to address resource limitations. A study at the University of Technology Sarawak (UTS) explored the effectiveness of online language learning through in-depth interviews with 20 undergraduate students. The findings revealed that reading (38%) was the most utilized skill in online language learning, followed by listening (33.4%), speaking (23.8%), and writing (4.8%), which was the least addressed skill. The study highlighted key factors contributing to effective online learning: well-prepared learning tools, proficiency in technology, motivated interaction between instructors and students, and fully supported instructors. To support the transition to online teaching, institutions must implement mandatory professional development for educators on online pedagogy and technology, create formal networks for sharing strategies, and establish centralized online resource hubs. These steps will help educators meet the needs of students in a digital learning environment and ensure a successful transition to online education, ultimately improving the learning experience for both students and instructors.

Keywords: language learning, online education, online learning, students' involvement, students' motivation, virtual learning.

INTRODUCTION

The ever-growing globalization has caused an immense growth in the use of information and communication technology (ICT) in most of industrial sectors, particularly the educational sector which in turn has transformed the way of learning, training and teaching (Jabeen, 2015). The widespread practice and implementation of the various digital technologies along with other forms of teaching and learning

materials has created an interactive, student-centred, open and flexible environment of online learning (e-learning). The Internet has made online learning practical, and educators are interested in e-learning in order to enhance and develop student learning outcomes while struggling with the declining of supplies and resources, particularly in higher education (Nguyen, 2015).

Even in the field of language education, educators have occupied to develop student-oriented courses using the latest web tools for courses which have been majorly instructor- oriented. The practicality of e-learning as an effective mode of teaching and learning has not only grasped the attention of language educators and practitioners, but has also expanded their understandings and perspectives on how to create student-oriented and open-ended learning environments (Lee, 2005), which are the two vital aspects of the communicative language teaching.
Moreover, learning through online forums or in other words to put a discussion through online is an imperative learning strategy for students to improve their language skills. The language learning process is highly individual and complex (Launer, 2010). In traditional classroom (face-to-face) teaching, an instructor or a lecturer will infuse the learning content while students listen, take notes and participate in class activities. In general, students are different and diverse in terms of intellectual sights and perceptions. Some students can acquire and comprehend more quickly and easily than others. And some students are more impassive and they are willing to accept what the teacher or lecturer says without enquiring (Wiriyachitra, 2002).

Therefore, for purposes of this study, online education is operationally defined as a format used in learning when learners do not need to be in the physical classrooms (Hockly, 2015). The terms e-learning, online learning, online teaching, online education, online instruction, and online courses are used interchangeably throughout the research.

Hence, the aim of this study is to do research on the effects of tertiary level students' language learning involvement through e-learning. The main online teaching platform used for data collection was online databases including Massive Open Online Course (MOOC), which was OpenLearning.com. Through qualitative interviews with 20 students from the University of Technology Sarawak (UTS), this study seeks to explore the use of online tools in language learning. The research focuses on gaining insights into current trends in digital education and includes a survey to support its findings. The primary objectives of this study are to:

1. Identify different online language learning tools and its effectiveness to language learning.
2. Discover students' motivation to involve in online language learning.
3. Assess the acquisition of language skills in online environment.

LITERATURE REVIEW

A. Effectiveness of Online Language Learning Tools

The usage of the internet with concerns to learning and teaching has broadened rapidly in the education sector. Even in the field of language education, educators have taken interest to demonstrate student-oriented courses using the latest web tools for courses which have been mainly instructor oriented.

Kee (2010), in his study of online adult learning, pointed out that cognitive existence in adult learners was about how they perceived their learning satisfaction. His study showed that "most adult students reported deep learning as the dominant learning approach" (p.814). He discussed individualistic learning as a principal approach in adult learners' cognitive learning activities, indicating that adult learners had mixed feelings about online discussions. In their view, the effectiveness of online discussion ultimately depended on who involved in the discussion, and meaningful and valuable discussion were grounded on whether the participating peers were "chatty and talkative." They were concerned that unbalanced discussion performances among their peers would greatly undermine the quality of online discussion.

Access to reliable and appropriate materials is an important part of the learning process and is known to upsurge motivation and maximise learning. In an online approach, technology offers just-in-time support in a synchronous way by giving prompt feedback, and by providing various scope of learning tools for learners, such as language functions, many different types of activities, notes with practices, etc., which can be accessed when required. It is also offered in an asynchronous way, incorporating websites, forums, and chat rooms (McCarthy, 2016).

With online learning, teaching is not limited to the seating arrangement of the traditional classroom. A big number of learners can be reached, regardless of their location or institutional faculty (Thanekar, 2013). This is particularly pertinent for teaching institution-wide language programs where students come from all programs and are pressed for time. The e-learning elements of an online approach can reach them wherever they are and at any time that suit them. Thus, any language lessons of activities can be delivered to wide audiences with differing needs without affecting the consistency and quality of teaching and learning. Once the e-learning elements have been designed and developed, the changes required according to leaners' needs are minimal from time to time.

In additional to support the e-learning approach, today's youngsters are technology-savvy. Many students are equipped with a desktop or a laptop with them, and a mobile phone. This gives them a prepared opportunity to leverage for learning the technology the already have at hand for everyday personal use, and without spending surplus budget on setting up the basic infrastructure (Thanekar, 2013).

B. Students' Motivation to Involve in Online Language Learning

An important element to ponder when adopting an online learning is students' attrition and retention. Many students, when they are first introduced to e-learning, they tend to say that they are not 'being taught' and feel that not only have they been wasting their time but that teachers or lecturers are not performing their job. The two vital debated elements were; academic factors such as difficulty and/or relevance with course materials and non-academic factors such as time pressure (Picciano, 2006). As for the academic factors, experience has shown that well designed online courses develop student learning and increase student motivation (Amaral & Shank, 2010).

Furthermore, any online course requires high self-discipline and motivation on the part of the learners. Researchers in China, for example, mentioned the challenges that many of their students are regulating their own learning. Having been used to receiving traditional face-to-face classroom approach, applying typical drill-and-practice model, the students tend to overly rely on the requirements and demands of teachers (Huang & Zhou, 2005). They tend to follow guidance and supervision from their teachers, and could not be independent for their own learning. However, one factor encouraging motivation especially in e-learning is reliance on discovery learning and self-directed learning, the type of skill base that is often lacking among such students (Huang & Zhou, 2003). Ushida (2005) found that, in general, students had high anxiety at the beginning of the course due to a lack of familiarity, but later, as the course went on, that anxiety lessen.

Motivation is one of the key factors that affect language learners' success and performances in the language learning process; that is why, widely concerns educators and researchers. Researchers and educators have extensively been concerned in learner motivation since it is meticulously connected to achievement and desired outcomes. Lumsden (1994) defines motivation as learners' willingness to take part in the language learning process. Dornyei (2015) views it as an crucial part of the challenging task of language learning and its absence will fail individuals even if they're equipped with the most outstanding abilities and a strong great motivation will make up for important flaws. Motivation is the first condition to take on a learning task and is the mechanism that powers the process.

Motivation is another concern that calls for in-depth analysis when it comes to online learning environments (Burston, 2003). In online learning, motivation has been receiving attention in recent years (Chen&Jang, 2010; Baker, 2010; Hartnett et al., 2011; Richardson et al., 2015; Li&Tsai, 2017; Kyewski&Kramer, 2018; Ozhan&Kocadere.,2020).

Various components have been suggested to interact with online learning motivation in an effort to address the problems of impairment and involvement. Learners experience lower levels of motivation when they skip classes or do not participate in

the activities. De Barba et al. (2016) found state-level motivation at the moment of learning acts as a mediator between intrinsic motivation and involvement.

Course materials and tasks were also examined in relation with motivation. Hartnett et al. (2011) reports identified regulation (acknowledging the value of an activity) in online settings is as much important as intrinsic motivation. Furthermore, Ozhan and Kocadere (2020) found that the experience of flow and efficient commitment with the online educational setting with games significantly affected students' motivation. Furthermore, instructor presence, which is teaching practices observable by students usually in a live setting (Richardson et al., 2015), is also a major factor that determines students' motivation in virtual classrooms (Baker, 2010). Therefore, it can be concluded that there is a dynamic interaction between learners' motivation and positive learning experiences in online settings.

Online learners benefit impressively from online learning communities because of their connectivity with one another, they are able to share knowledge and fulfil common goals, which increase their involvement in learning. The relationship and interaction between the instructors and learners and among peer learners can also increase students performances and their satisfaction of the course, and learners can receive supports and assistances from their peers, and at the same time they can add their knowledge base through their interactive activities (Yuan & Kim, 2014).

Theoretical Framework

Learner engagement is a critical factor in the effectiveness of e-learning environments. Engagement refers to the level of interest, motivation, and active participation that student's exhibit during the learning process. An effective e-learning framework not only incorporates established learning theories but also emphasizes strategies to foster learner engagement in digital spaces. This theoretical framework combines key learning theories with specific focus on promoting and sustaining learner engagement in e-learning contexts.

1. Constructivist Learning Theory and Learner Engagement

Constructivism emphasizes active learning, where learners build their knowledge through interaction with the content, their peers, and educators or instructors. Engagement is heightened when learners are given opportunities to explore, collaborate, and reflect on their learning. In an e-learning context, this theory suggests that students become more engaged when they are allowed to actively participate in problem-solving tasks, discussions, and other interactive learning activities that challenge their thinking (Piaget, 1973; Vygotsky, 1978).

When learners have more control over their learning, such as through choosing topics, project-based assignments, or interactive simulations, engagement levels rise. Additionally, reflective activities like journaling or peer discussions allow students to

connect the content to real-world scenarios, promoting deeper engagement (Jonassen, 1999). Personalized learning paths, such as those offered by adaptive learning technologies, enhance motivation by addressing individual needs, which further fosters engagement and satisfaction (Schunk, Pintrich, & Meece, 2008).

The application of constructivist learning theory to e-learning offers a powerful framework for engaging learners in active, social, and authentic learning experiences. By incorporating principles like problem-solving, collaboration, and learner autonomy, e-learning environments can foster deep engagement and improve learning outcomes (Jonassen, 1999; Garrison, Anderson, & Archer, 2001; Dabbagh & Kitsantas, 2012). While challenges such as technological access and learner motivation remain (Selwyn, 2016), the potential for enhancing engagement through constructivist approaches is substantial. As the field of e-learning continues to evolve, maintaining a focus on learner-centered, constructivist practices will be crucial in ensuring effective and meaningful digital education (Hattie & Timperley, 2007).

2. Self-Determination Theory (SDT) and Learner Engagement

Self-Determination Theory (SDT) posits that students are more engaged when their intrinsic needs for autonomy, competence, and relatedness are met. When students feel they have control over their learning, experience mastery, and feel connected to others, their motivation and engagement levels rise (Deci & Ryan, 2000).

E-learning systems that offer students choices in their learning paths, provide constructive feedback, and promote social interaction among peers foster higher levels of engagement. This autonomy-supportive environment boosts motivation and supports sustain engagement (Deci & Ryan, 2000). Strategies such as personalized learning, scaffolding, and providing opportunities for peer collaboration align well with SDT's focus on intrinsic motivation, fostering a sense of belonging and personal investment in learning (Reeve, 2009).

Self-Determination Theory (SDT) provides a robust framework for enhancing learner engagement in e-learning by addressing the basic psychological needs of autonomy, competence, and relatedness. By designing e-learning environments that offer choice, appropriate challenges, immediate feedback, and social connections, educators can foster intrinsic motivation and deepen engagement (Deci & Ryan, 2000; Ryan & Deci, 2000). As online learning continues to grow, applying SDT principles will be essential for ensuring that learners are not only engaged but also thrive in their educational experiences (Vallerand, 1997; Vansteenkiste et al., 2004).

The integration of various learning theories into e-learning frameworks provides a multifaceted approach to promoting learner engagement. For example, Constructivist, along with motivation theory such as Self-Determination Theory contribute to creating engaging, effective, and motivating learning experiences. By applying these theories,

e-learning environments can offer personalized, interactive, and supportive spaces where learners are empowered to take control of their learning, collaborate with peers, and remain motivated and engaged throughout their educational journey.

METHODOLOGY

A qualitative methods research design was conducted which incorporated a survey in order to collect data for the study from semi-structured interviews with twenty (20) UTS undergraduate students as respondents (R) through quota sampling method. The respondents were in the process of undergoing or have undergone both or either one of the online courses in UTS; 1.) UCS3112 Communication in the Workplace and/or 2.) UCS3122 Professional English: Essential Communication Skills.

Due to the MCO (Movement Control Order) during the COVID-19 pandemic currently, the qualitative data was collected from audio recording in semi-structured face-to-face interview sessions had to be changed to virtual semi-structured interview through Google Meet. The primary data was analysed via thematic content analysis in order to gain a better understanding of the respondents feedbacks. The first step in primary data analysis was an open coding process, in which data was observed, sorted and conceptualized. Then, analysis was matched to the coding process, in which the focus is on specifying a theme. The main objectives of organizing the data this way is to help in the conceptualization of the data and to establish logic relationships among the developing categories of analysis.

To enhance the validity and reliability of the study, secondary data from a wide range of academic articles and journals was analysed using online discourse analysis—a qualitative method effective for uncovering underlying patterns, meanings, and communicative structures in digital content (Gee, 2014). This data was synthesized into key thematic categories relevant to online language learning. These categories were derived from common themes, trends, or patterns observed within the data, which helped identify key findings or points of interest. The data have been grouped into categories such as "student engagement," "student motivation," technological challenges," "online tools effectiveness," and "language skills acquisition." Primary data, collected through interviews with 20 UTS undergraduates representing diverse academic and linguistic backgrounds, was ethically conducted with informed consent and confidentiality. By triangulating the primary and secondary data, the study ensured methodological rigor, strengthened the credibility of the findings, and offered a well-rounded analysis of the effectiveness and challenges of online language learning, which is comprehensively presented in the results section.

To ensure a thorough understanding and integration of both the primary and secondary data, a process of comparison and synthesis was undertaken. The primary data (collected through observation, surveys and interviews methods) was compared to the secondary data to identify congruencies or discrepancies, and the results were

discussed in terms of how these sources complemented or contradicted each other. This matching process allowed for a more comprehensive analysis of the research question, helping to validate or refine the findings based on the broader context provided by the secondary data (Creswell, 2014; Patton, 2002)."

The findings from this analysis were then presented in the results section, where they were organized and summarized in a clear, logical manner. The results section not only outlined the key categories identified through the analysis but also provided a detailed discussion of the implications of these findings for the broader research topic. By integrating both primary and secondary data, this approach ensured a rich, well-rounded interpretation of the research question and provided valuable insights into the topic under investigation.

DISCUSSION AND FINDING

A. Effectiveness of Online Tools

Online tools have reshaped tertiary education by making learning more flexible, interactive, and student-cantered. Platforms like learning management systems and video conferencing apps enhance access, engagement, and collaboration. As digital learning becomes more common, it is important to evaluate how these tools impact student outcomes, particularly in language learning.

Tools	Average
Internet	4.45
Videos, animations and interactive web exercises	4.00
Discussion boards	4.20
E-mails	3.40

Table 1: Effectiveness of Online Tools

1. Unlimited Sources

Interestingly, according to findings, when students were asked to rate the effectiveness of these tools on a scale of 1 – 5 with 1= very ineffective and 5= very effective, their responses were moderately positive (M=4.45) towards Internet. The reason stated for the high preference for these tools was those sources produce much useful knowledge that could assist their learning enjoyable at the same time. Also, they stated they used videos and animations more as a learning aid rather than a primary tool.

R2 mentioned,

"I prefer online learning as I can choose from a wide selection of online materials and references, such as fun videos and animations. It also allows you to access the course material at any time. This means you can refer to material as needed and have extra time to review and study the course information and concepts. Since there are no scheduled classes to attend."

To support, R16 also stated,
"Online Learning does help us in terms of time and concentration. For me, with the notes and quizzes given here (online medium), I can focus on my own (somehow it works better) and have discussion with my own friends about the topic given in discussion board at any time we want. Plus, we are given a time limit so we will not be drifted away with our own works."

Nowadays, an extensive range of tools are available to be utilized in the language learning environment. In order to get the response of the first research question and to assess the online tools used for the language learning, students surveyed for the present study were given multiple options. As a result, most of the students were accessing Internet as a main reference, followed by videos, animations and interactive web exercises for learning assistance. They also utilize discussion boards and e-mails. The reason stated for the high preference for these tools for these tools was their synchronous mode since they provided a connection between students and faculty for resolving issues.

This was agreed by R7 as he mentioned,
"Most of the students nowadays are mostly relied on the Internet. No Internet means it's hard to find references for our assignment. As we know, we can get any types or categories of information that we need from the Internet. You don't have to buy reference books or magazines, newspapers, like previous years just to find information."

2. Constant Internet Connection

Nonetheless, the majority of the students reported that lack or poor internet connection as most common challenges in undertaking open learning. 35% participants claimed that unfamiliarity of the platform knowledge or other technical proficiency, followed by poor self-discipline, which refers to the high dependence among participants expecting full guidance and assistance from lecturers or instructors, especially in giving reminders of the datelines. So, as a whole, it can be seen that majority of the students still found that online learning is helpful and interesting. However, they agreed that some challenges could hinder the effectiveness of online learning.

R9 also identified,
"For online learning, I need to make sure that I am 24 hours alert, where I cannot be late for any update in here. For the assignment, it may take some times for me to get use to the system in the open learning such as where to get the materials. This really teach me on how to be more discipline and learn to manage my own learning."

Technological barriers, including poor internet connectivity, technical difficulties with microphones, and platform limitations, are significant challenges in online language

learning, particularly for speaking activities. These issues disrupt communication, create frustration, and often discourage students from actively participating in verbal tasks. In a typical online learning environment, smooth audio and video transmission are crucial for effective speaking practice. However, when students face technical difficulties such as delayed audio, poor video quality, or malfunctioning microphones, communication becomes less clear and can lead to misunderstandings and frustrations. These disruptions can make speaking tasks feel burdensome, which discourages engagement and limits language acquisition opportunities (Ally, 2008).

Moreover, the technical limitations of platforms can affect the interactivity of language activities. Many e-learning platforms may not be designed to support high-quality, real-time communication, limiting features like breakout rooms, group discussions, or live feedback from instructors. As a result, students miss out on the dynamic nature of spoken language practice, which is essential for improving fluency, pronunciation, and confidence (Hanson-Smith, 2006).

Therefore, by improving the internet infrastructure is essential in coping the issue. One of the most direct ways to address poor internet connectivity is through investment in better infrastructure. Universities and educational institutions could partner with internet providers to offer discounted or subsidized broadband services for students in remote or underserved areas. Additionally, institutions could provide technical support and troubleshooting services to help students set up reliable connections (Bates, 2015).

3. Accessible Backup Communication Tools

Next, by providing backup communication tools can be another initiative. To mitigate microphone and video issues, it would be beneficial to encourage the use of backup communication tools. For example, if audio or video fails, students could use instant messaging, chat, or even voice recordings to maintain communication.

R20 did not deny that ignorance among some students can be a major issue in ensuring the effectiveness of online learning as she specified:
"I have to admit (perhaps my own fault), I am still carried away with my own things that I'd forget to check on my online learning app. So, it brings me horror if I really do miss out any due dates as we know that most online learning is more to self-paced."

Hence, platforms that offer both synchronous and asynchronous communication features could be integrated to allow students to complete speaking assignments or participate in discussions without being hindered by live technical failures (Garrison & Anderson, 2003).

The viewpoints gathered from the sample indicate that the effectiveness of diverse range of materials and resources available online has a positive impact on enhancing

learning experiences. Participants expressed that the variety of educational tools such as video lectures, articles, interactive simulations, discussion forums, and other digital sources provided multiple ways to engage with the content, catering to different learning styles and preferences (Anderson, 2008; Mayer, 2009). This accessibility allowed students to explore topics more deeply and at their own pace, leading to a more personalized and effective learning process (Clark & Mayer, 2016). The flexibility and diversity of online resources also helped reinforce key concepts, making learning more engaging and motivating (Garrison et al., 2000). Overall, the availability of various online materials contributes significantly to improving students' understanding and retention of the subject matter, highlighting the importance of diverse learning resources in the online education environment.

In overall, by addressing these technological barriers—such as access to reliable internet, user-friendly tools, interactive features, and the reduction of technology-related anxiety—online language learning can become a more inclusive, effective, and engaging environment. When learners are empowered with the right tools and support, they can confidently engage in speaking activities, develop their language skills, and ultimately overcome the limitations of technology. This will not only enhance learners' motivation and confidence but also improve the overall effectiveness of online language learning programs.

B. Web Technology Proficiency

Web technology proficiency is increasingly vital for tertiary students as digital tools become central to higher education. Effective use of online platforms enhances learning, collaboration, and prepares students for a tech-driven future. Understanding their competency is key to improving digital learning experiences.

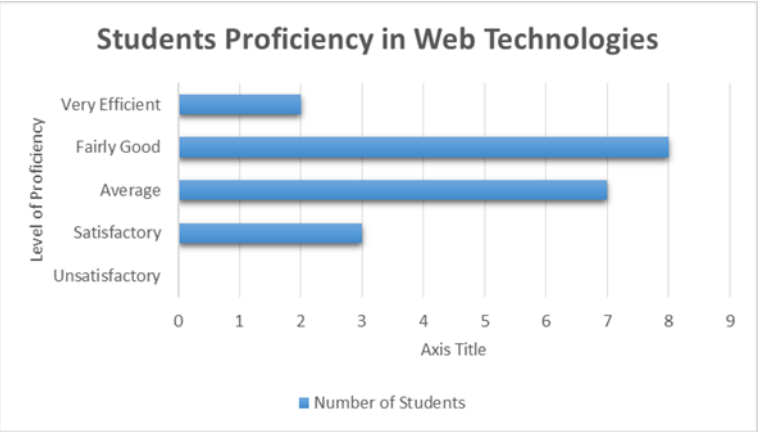

Figure 1: Students Proficiency in Web Technologies

The ability to use digital tools effectively, is often assumed, the reality is that students' proficiency with web technologies can vary greatly. This variation can influence their ability to succeed in e-learning environments, highlighting the importance of equipping students with the necessary skills to navigate the digital learning space.

Proficiency in web technologies is crucial for students to effectively engage with online courses, access educational content, communicate with instructors and peers, and complete assignments.

1. Web Efficiency

Henceforth, another surprising finding was that most of the students found themselves to be above average when it came to web technology or web efficiency.

R4 specified,

"I am still unclear with the application and the platform itself. Sometimes, I still have no idea which section to select when it comes to specific materials or tasks. I had no idea where to select to get at our rubric or the announcement on the due date till my friend had to show me where it was. Thus, sometimes, we as a student still need lecturers' or instructors' support to guide us."

The issue of unclear navigation within online learning platforms is a common challenge faced by many students. As digital learning environments become more complex, students often struggle to find course materials, tasks, rubrics, or important announcements. This confusion can cause frustration and hinder learning efficiency. For example, if students are unclear about where to locate essential resources like rubrics or due dates, they may miss critical deadlines or fail to understand assignment requirements, ultimately affecting their academic performance (Bates, 2015).

This problem is particularly pronounced for new users or when platforms are not intuitive. Many students may not feel comfortable navigating the platform without explicit guidance. In some cases, they may rely on peers for help, as seen in the student's experience of having a friend show them how to find necessary information. This reliance on peer support can be stressful and unsustainable, especially in large classes where individualized instructor support is limited (Garrison & Anderson, 2003). Furthermore, the overwhelming volume of information and multiple sections of a platform can create confusion, leading students to feel disengaged or disconnected from the course.

Therefore, firstly, comprehensive orientation and training is essential to address this issue, institutions should provide comprehensive orientation sessions or tutorials on how to navigate the online platform at the beginning of each semester. These sessions can guide students through the platform's layout, show them where to find course materials, assignments, announcements, and rubrics, and explain how to communicate with instructors and peers. This proactive support ensures that students feel confident using the platform from the start (Ally, 2008).

2. Platform Comprehension

Next, instructor should actively support students in understanding the platform throughout the course. This can include weekly reminders or announcements about upcoming deadlines, clarifications on how to access materials, and offering office hours dedicated to platform navigation support. By being available to answer questions, provide prompt feedback, and guide students through common issues, instructors can help ensure that students are not left feeling lost or overwhelmed (Bates, 2015).

Furthermore, students should be encouraged to provide response or view on the platform's usability. This feedback can help instructors, institutions and platform developers identify problem areas and make necessary improvements. Regularly updating the platform based on user feedback can contribute to a better overall experience for students. Additionally, instructors could solicit informal feedback about students' navigation challenges during the course and adjust instructional materials or provide further guidance if needed (Chapelle, 2003).

To add, R5 mentioned,

"…so does students who went back during the time, thus, giving them lack/poor access to internet connectivity and is not able to commit to the online learning activity which results in being left out or not able to keep up with the progress."

Therefore, to prevent students from missing important deadlines or tasks, automatic reminders for upcoming assignments and due dates can be integrated into the platform. These reminders could be sent via email or as push notifications within the platform itself. Additionally, instructors can set up clear, visually distinct sections for key tasks or deadlines, ensuring that students cannot easily overlook important information (Rosen & Salomon, 2011).

3. Web Usage Familiarity

Another appealing finding was that most of the students surveyed found themselves to be above average when it came to the usage of web technology. While on the other hand, many of the students did not feel the same about their instructors. Moreover, students who rated themselves to be fairly good (Fig 1) in using web tools averaged a mean of 5.2, while students who rated themselves who were very efficient averaged 5.87. This points out that the lack of knowledge in handling these tools can affect learner's efficiency, too. Therefore, self-efficacy and technical support are the factors needed to increase the effectiveness of an e-learning language programs.

The statements were corroborated by the students as R3 stated,

"…and I also can't deny that strong technical support is essential to ensure the effectiveness of the online learning. For example, at certain location or at certain times,

the server, the platform, the internet connection can be disconnected and unstable. Not all students have a good knowledge on how to cater this issue."

To have strong technological supports agreed by R12 as she affirmed
"We know that live session required good internet connections, but sometimes poor connections also occurred within campus area or our own house that affects our learning process. Therefore, for me, we need to ensure we have a strong and stable connection all the time or at least to prepare for a backup in case of any circumstances. Or else it's hard for us to achieve the goals."

Thus, by providing training for both learners and instructors on how to troubleshoot common technical issues can reduce anxiety and build confidence in utilizing the technology. For instance, instructors could guide students on the best practices for setting up microphones, cameras, and internet connections before class begins. Having a responsive technical support team available during sessions can also address issues in real time (Huang et al., 2012).

In overall, this points out that the lack of knowledge in handling these tools can affect learner's efficiency and indirectly slow down the momentum of learning development. Thus, self-efficacy and technical support are the main factors that could contribute to the enhancement of the effectiveness of an online language learning. By addressing the confusion around online platform navigation, higher institutions can create a more seamless and supportive digital learning environment. In short, clear guidance, consistent platform design, and ongoing instructor support can significantly reduce students' frustrations and improve their overall online learning experience.

C. Engaging Digital Learning Tools

The rapid growth of e-learning has created a wealth of opportunities to engage students in active and personalized learning experiences. The use of digital learning tools is central to creating an engaging, interactive, and effective e-learning environment. These tools not only support traditional learning activities but also foster collaboration, creativity, and critical thinking, key elements that enhance student engagement and improve learning outcomes.

As shown in Table 2 below, students were briefly questioned to rate the following statements in terms of agreement/disagreement on scale 1-5 (indicate 1 for Strongly Disagree to 5 for Strongly Agree).

Statement	Average
There are resources to interact with fellow students online.	4.35
The use of videos and animations has increased the amount of information obtained.	4.75
There should be more material like notes, practices, videos, etc.	4.15
There are mediums to interact with instructors online.	4.10
I communicate with my instructors via face to face.	3.40
I communicate with other students face to face.	4.40
If left to work at my own pace, I procrastinate.	2.15
I am web proficient.	3.10
My instructors are web proficient.	3.05

Table 2: Response for Online Learning Tools

The results show that video and animations did actually enhance learning process. However, the study also revealed that there was a need for more support materials like notes, practices, videos, etc. as a quite a number of students expressed their desire for the same approach.

R9 mentioned,
"Though language or communication courses are not as tough as science or calculation courses, we still need proper amount of notes and other supporting materials to enhance our comprehension, especially now, we have implemented the online learning which means less face-to-face communication with lecturers. So, students have to be more independent in finding more sources."

Although there were mediums to interact with other students and instructors online, more tools and technological supports were required to increase the interaction.

R1 affirmed,
"As we are dealing with technology, there will be drawbacks and unpredicted issues happened that can decrease the effectiveness of the learning process. And that's why, in my personal opinion, we can't depend only on one or two tools or mediums. We have to think of a backup plan. For example, more interactive and fun sources."

1. The Use of Emerging Technologies

The analysis of 20 in-depth interview sessions with undergraduate students revealed several key themes regarding the use of emerging technology in their academic experience. Through qualitative content analysis, students shared nuanced perspectives on how technology has shaped their academic engagement, access to resources, and collaboration with peers and lecturers. The findings uncovered both the advantages of technology-enhanced learning—such as increased flexibility, interactivity, and communication—and its associated challenges, including digital inequalities, distractions, and the need for greater digital literacy support.

Students' insights were shaped by diverse academic backgrounds, technological proficiency levels, and personal learning preferences, offering a holistic view of how emerging tools—ranging from learning management systems to real-time collaboration apps—are transforming higher education. By capturing real experiences and reflective commentary, the analysis provides a grounded understanding of how emerging technologies are not only being used but also perceived, revealing the complex interplay between innovation and practical implementation in academic settings.

R9 and R13 both stated that the learning process became more practical as the technology made the online learning could be accessed anywhere. They affirmed, *"using Google Docs and Google Classroom made it really easy to access all my course materials in one place, anytime I needed them*," and *"Zoom and Microsoft Teams helped me attend classes even when I was at home - especially during the lockdown. I didn't feel like I was missing out."*

To support this, R8 also indicated on the merits of the technology,
"Kahoot and Padlet made the lessons more interactive. It wasn't just listening—there were quizzes, polls, and real-time sharing, which kept things interesting. Group projects became easier because of tools like Google Workspace and Teams. We could work on the same file together and chat in real time, even if we weren't on campus."

The findings highlight both the perceived benefits and challenges associated with technology-enhanced learning.

i. Enhanced Accessibility and Flexibility

A majority of participants (17 out of 20) reported that emerging technologies such as learning management systems (e.g., Moodle, Blackboard), mobile apps, and cloud-based platforms (e.g., Google Workspace) provided greater flexibility in accessing learning materials. Students appreciated the ability to review lectures asynchronously, manage assignments digitally, and engage in learning at their own pace.

ii. Increased Engagement through Interactive Tools

Twelve students emphasized the value of interactive technologies such as virtual whiteboards, live quizzes (e.g., Kahoot, Mentimeter), and breakout rooms in video conferencing platforms. These tools were said to promote active participation and collaboration, especially during online or hybrid learning sessions.

iii. Technological Proficiency and Digital Literacy
While most students (15 out of 20) expressed confidence in using digital tools, five participants acknowledged a learning curve when adapting to new platforms. Several highlighted the need for introductory training or tutorials to help students maximize the potential of educational technologies.

iv. Equity and Access Challenges
Despite the benefits, eight students raised concerns about unequal access to devices and stable internet connectivity. This digital divide particularly affected students from rural or lower-income backgrounds, limiting their ability to fully engage with online resources.

v. Positive Impact on Communication and Collaboration
Many students (14 out of 20) noted that tools like Microsoft Teams, Zoom, and collaborative platforms such as Padlet and Miro enhanced their ability to work on group projects, communicate with lecturers, and share resources efficiently.

Theme	Key Insights	No. of Students (out of 20)
1. Accessibility and Flexibility	Technologies like LMS, mobile apps, and cloud tools improve access to learning.	17
2. Interactive Learning Tools	Tools like Kahoot, Mentimeter, and breakout rooms enhance engagement.	12
3. Digital Literacy & Proficiency	Most students are confident using tools, but some need basic training.	15 (positive); 5 (need help)
4. Equity and Access Issues	Concerns about internet access and device availability, especially in rural areas.	8
5. Communication & Collaboration	Tools like Zoom, Teams, and Padlet improve group work and lecturer interaction.	14
6. Distractions & Overreliance	Some students find tech overuse distracting; call for balance.	6

Table 3: the Summary of Key Findings on Emerging Technology Use

Therefore, by acting on these findings, institutions can create a more inclusive and effective learning environment that fully leverages the advantages of emerging technologies while minimizing their drawbacks. This ensures that technology serves as a tool for equity, engagement, and deeper learning across the higher education experience.

D. Students' Motivation to Get Involve in Online Language Learning

Interviewing 20 students, all of whom had taken UCS3112 and UCS3122 courses addressed the importance of instilling the awareness of education and self-motivation. In their viewpoints, they believed that university students should be matured enough to be independent in learning and to realize on how education could give high impacts on their future. This agreed by one of the students, R5, as he believed that, *"students become more active than ever, proven with the comments posted by students. Students will study (slides, etc.) more frequent due to time limit and quiz*." To strengthen the point, another student, R17, also stated, *"At the age of above 18 is considered as adult, so that it is the time to be more mature and independent in learning in which students should know how to prioritise and manage their own study*." Relevant comment by students who had a high level of motivation to successfully complete the course and possessed a good attitude towards online learning.

R8 indicated,
"This course helped me to be more responsible. Marks gained from the weekly tasks increase my motivation to keep moving. Arranging time-table to finish those exercises kept me motivated too and I did it with enthusiasm as sometimes my friends and I make it as a competition to get the highest marks."

Motivation is essential in online learning, as students often face challenges such as isolation, lack of engagement, and difficulty maintaining focus in virtual settings (Moore et al., 2011). Thus, newer technologies like gamification, AI tools, and adaptive learning platforms are not only reshaping online education, but they are also playing a critical role in enhancing student motivation in e-learning environments. These technologies address these challenges by creating more interactive, personalized, and rewarding learning experiences, which can drive students' intrinsic and extrinsic motivation (Deterding et al., 2011; Chou, 2015).

1. Integration Technologies for Holistic Motivation

When gamification, AI tools, and adaptive learning platforms are integrated together, they provide a highly engaging, personalized, and motivational learning environment. For instance, AI can assess a student's performance and provide personalized feedback, while gamification elements can reward progress through points or badges. Adaptive learning can ensure that students always encounter content that challenges them just enough to keep them motivated, but not so much that they become discouraged. The combination of these elements creates a comprehensive motivational ecosystem that meets the diverse needs of students (Huang et al., 2012). These technologies ensure continuous interaction with students. Whether it's through a game-like experience that motivates students to keep progressing, AI-driven personalization that helps them feel in control of their learning, or adaptive platforms

that match their pace, these technologies keep students consistently engaged, fostering sustained motivation over time.

To support this, R9 also indicated,
"Of course, my main tool for searching information is Internet. We can just get any info we want within few seconds. Plus, there are various kind of sources that we can find such as interesting games, videos, animations, songs, movies, etc. So, our references won't be limited. Urmmm…and it will make learning fun."

Therefore, it is clear that the integration of gamification, AI tools, and adaptive learning platforms represents a new wave of technological advancements that significantly boost learners' motivation in e-learning environments (Deterding et al., 2011; Anderson & Rainie, 2020). These technologies personalize learning experiences, foster engagement, and provide immediate feedback, all of which are key factors in maintaining students' motivation (Chou, 2015; Hamari et al., 2016). By addressing the diverse needs of students and creating a more interactive and dynamic learning environment, these technologies hold the potential to overcome many of the challenges that have traditionally impacted motivation in online learning (Bower, 2019).

It was observed that new students who did not possess self-learning skills tended to have low motivation associated with anxiety and lack levels of awareness. They still preferred learning language in a face-to-face method since they were not ready to learn independently.

This statement was supported by R5, as he indicated,
"I felt motivated when I studied in the classroom. Class attendance motivated me to attend the class. Hahaha… The teacher can answer my questions promptly. In online learning, I have to wait for any feedbacks. And I do not want to ask my friends because I trust the lecturer more."

Adaptive learning platforms use data to adjust the difficulty level of content, ensuring that students are continuously challenged, but not overwhelmed. This customization has a strong impact on motivation because it aligns with students' personal learning goals.

i. Optimal Challenge Level: Motivation theory (e.g., Vygotsky's Zone of Proximal Development) suggests that students are most motivated when they are working on tasks that are appropriately challenging—not too difficult, but just beyond their current abilities. Adaptive learning platforms deliver this by constantly analyzing student performance and adjusting the content to provide the right level of difficulty (Siemens, 2014). This helps maintain students' motivation because they are constantly progressing and facing achievable challenges.

ii. Mastery-Oriented Motivation: Adaptive learning supports mastery-oriented goals by allowing students to focus on understanding and mastering content at their own pace. This mastery approach encourages intrinsic motivation because it emphasizes improvement and understanding rather than grades or competition (Deci & Ryan, 2000).

iii. Increased Autonomy: These platforms often give students more control over their learning paths, allowing them to choose which areas to focus on. This autonomy in the learning process has been shown to significantly enhance motivation by increasing students' sense of agency and ownership over their educational experience (Ryan & Deci, 2000).

It was found that the senior students who possess self-learning skills were more ready to study online course compare to junior students. This was because most lower grade students still need sufficient time to adapt themselves to a new learning mode since they had been learning within traditional mode which they had been fully guided by teachers for a long time and are still attached to it. Thus, proficiency, maturity, and experiences in online learning could also play a significant role in online language learning.

E. Frequent Interaction between Instructors and Peers

Based on the next findings, there seemed to be a strong indication by students that a slightly more frequent interaction with peers and instructors would help them stay focused as compared to being left to study at their own pace which tended to decelerate things down and in turn, affected efficiency of overall learning process. Frequent interactions with peers and educators are crucial for enhancing e-learning experiences by promoting deeper engagement, motivation, and academic success.

R15 stated,
"For me, once we have carried out an online learning, one has to be more independent and should have a higher self-discipline because there will be less face-to-face interaction with lecturers. One has to know how to manage their own study and be open to seek assistance and guidance from others if necessary."

The results discovered that a slightly more than occasional interaction with peers and instructors would help them stay focused as compared to being left to study at their own pace which tended to slow their progress and in turn, affected the learning involvement and effectiveness. Additionally, sufficient technical guidance should be provided to students and instructors to improve the effectiveness and overall online learning and teaching experience. Additionally, in order to boost the students' learning involvement and achieve the effectiveness of online language learning.

Frequent interactions with peers in e-learning environments can stimulate collaboration, knowledge sharing, and a sense of community. Social interaction is a key component of motivation and engagement in learning (Vygotsky, 1978; Bandura, 1977). Peer discussions, group projects, and collaborative problem-solving tasks provide opportunities for students to learn from each other, share insights, and support one another's learning processes (Jonassen, 1999; Garrison et al., 2000)." Whilst, regular and effective communication with educators can help students feel supported and guided throughout their learning process. Teachers play a key role in clarifying concepts, offering feedback, and providing encouragement (Hattie & Timperley, 2007; Ryan & Deci, 2000). In an online environment, this can be done through various modes such as live sessions, office hours, discussion forums, and personalized feedback (Anderson, 2008; Garrison et al., 2000)."

On the other hand, in traditional classroom settings, face-to-face interactions foster collaboration, immediate feedback, and social connections, which can sometimes be missing or diminished in online environments (Garrison et al., 2000; Anderson, 2008). Therefore, when e-learning systems integrate frequent, meaningful interactions, they can help bridge this gap and create a more engaging learning experience (Siemens, 2005; Ryan & Deci, 2000)."

F. Acquisition of Language Skills

The acquisition of language skills through e-learning has become increasingly prevalent, offering learners flexible access to resources and learning environments that cater to diverse needs and learning styles. E-learning, which involves the use of digital platforms and tools for educational purposes, has transformed language acquisition by making learning more interactive, personalized, and accessible. However, for e-learning to be effective in developing language skills such as speaking, listening, reading, and writing.

The responses in Table 4 are based on 1-5 scale indicating 1 for Very Ineffective to 5 for Very Effective.

Skill	Average
Reading	4.44
Listening	3.67
Speaking	3.56
Writing	2.89

Table 4: Summary for Acquisition of Language Skills

In response to the question which of the four language skills (listening, reading, writing and speaking) developed the most involvement in the online learning setting, reading received the highest percentage (38%) of all the skills used in language online learning.

Listening was the second most used skills in the online setting with 33.4%, followed by speaking (23.8%), whereas writing was an issue that needed to be addressed while learning languages online as it had least response with only 4.8%. Students stated that reading attained the highest percentage due to most of the given or provided sources are materials such as reading notes. However, some learners believe that online learning does not give a high impact or implications on the acquisition of any language skills.

This seems to be a clear indication that reading and listening skills tend to have more opportunities to be practised online and more effective when studied through the internet. Other findings showed that practicing writing and speaking skills online seemed to be no different in terms of involvement. Both the online and traditional classroom methods yielded the same outcome. Even for writing, the online method had a better average at M=3.56, while learning through face-to-face interaction averaged at M=3.44

This result was also corresponded by R13,
"It enhances my language as it provided more time for me to learning the English and digest what I learned from the slides and video, especially in reading and listening as we could listen to variety of pronunciation through online resources. The other language skills…I don't think they have effects."

To add, R8 indicated,
"For me, in terms of whether online learning enhances my language proficiency especially in areas such as, writing and speaking; I would prefer the traditional learning approach as there is opportunities of interaction, guidance of pronunciation, observation of body language and so forth."

To elaborate further on these findings, whilst speaking and writing skills tend to show less effect in e-learning for several reasons as stated by learners:

i. Lack of Real-Time Interaction: In online environments, speaking often lacks the immediacy and natural flow of face-to-face conversation. Without real-time verbal interactions, students may struggle with practicing pronunciation, fluency, and spontaneous communication. This reduces the opportunity to develop speaking skills effectively (Huang et al., 2012).

ii. Limited Peer Interaction: Many online learning platforms prioritize asynchronous learning, meaning students may have fewer opportunities for verbal exchanges, group discussions, and collaborative tasks. The absence of frequent speaking practice with peers or instructors can hinder improvement in oral communication (Garrison & Anderson, 2003).

iii. Technological Barriers: Issues such as poor internet connectivity, microphone or camera problems, and platform limitations can interfere with effective speaking practice. These technical challenges often discourage students from actively engaging in speaking exercises (Ally, 2008).

iv. Writing Feedback Delays: Writing skills in e-learning environments often suffer from delayed feedback, especially in larger classes where instructors may not have the time to provide personalized, timely responses. Without immediate guidance, students may struggle to refine their writing (Bates, 2015).

v. Lack of Contextual Learning: In many online courses, writing assignments may be more structured or theoretical, lacking the real-world context that helps develop strong writing skills. Writing in isolation, without the immersion or feedback that physical classroom environments can provide, can limit a student's ability to practice effectively (Chapelle, 2003).

vi. Asynchronous Learning Preferences: E-learning platforms often favour self-paced learning, which may result in students focusing more on reading and listening materials that don't require active verbal or written expression. As a result, the emphasis on speaking and writing may decrease in favour of more passive skills (Rosen & Salomon, 2011).

This results at the same time revealed that the issue to confront were the lack of learning projections for speaking and writing, as students believed that the only means to learn how to speak and write well was through interactions and comprehensive practices with peers and instructors during face-to-face learning. To put the online speaking and writing activities into suitable practice, instructor's assistance and support are required. However, in many cases, this may not be achievable as many students find time constraints to be a major hindrance. This leads to less frequent interactive sessions, thus affecting the overall involvement of language learning as a whole.

To address these issues, e-learning environments can incorporate more interactive features like live speaking sessions, peer discussions, video-based assignments, and real-time feedback to better support the development of speaking and writing skills. Additionally, incorporating voice recognition software and speech-to-text tools can help students practice pronunciation and fluency in speaking tasks, offering instant feedback on their performance (Yang & Chen, 2019). Online collaborative writing platforms, where students can co-write documents and receive peer reviews, can further enhance writing skills by fostering active engagement and providing opportunities for feedback from classmates and instructors (Zhang & Zhu, 2017). Furthermore, gamified elements, such as challenges or competitions, can increase motivation and encourage active participation in both speaking and writing tasks

(Deterding et al., 2011; Hamari et al., 2016). By integrating these interactive and dynamic features, e-learning platforms can create a more engaging and supportive environment for skill development, addressing the unique challenges that learners face in virtual settings.

CONCLUSION

The effectiveness of online learning in language education remains a complex issue influenced by factors such as learner engagement, technological proficiency, and the role of instructor guidance. While online platforms provide flexible and accessible alternatives to traditional classrooms, challenges like limited interaction, low motivation, and lack of digital training continue to affect learning outcomes. Notably, students tend to perform better when guided by trained instructors who can support and enrich the online learning experience.

Despite its limitations, online learning holds great potential when implemented strategically. The integration of diverse media, adaptive technologies, and interactive methods can meet various learning needs and improve language acquisition. As technology continues to evolve, it is vital for educators, students, and institutions to stay informed and trained. Ongoing support and digital literacy development will be key to unlocking the full benefits of online learning. Ultimately, the future of language education lies in balancing innovation with meaningful human connection and pedagogical best practices.

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