Journal of Information Systems Engineering and Management
2025, 10(36s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

Managing Technology-Enhanced English Language Programs: A Strategic Framework at Dong Nai Technology University

Nguyen Van Duc[1]
[1]Faculty of Foreign Languages, Dong Nai Technology University, Bien Hoa City, Vietnam
Email Corresponding: nguyenvanduc@dntu.edu.vn

ARTICLE INFO

Received: 25 Dec 2024

Revised: 15 Feb 2025

Accepted: 24 Feb 2025

ABSTRACT

The integration of technology into English language teaching has transformed pedagogical approaches, offering both opportunities and challenges. This study presents a strategic framework for managing technology-enhanced English language programs at Dong Nai Technology University (DNTU). Utilizing a mixed-methods approach, the research investigates the effectiveness of current technological tools and strategies employed in DNTU's English programs.Qualitative data were collected through interviews with faculty members to explore their experiences and perceptions, while quantitative data were gathered via student surveys assessing language proficiency and engagement levels. Findings indicate that while technology integration has improved accessibility and flexibility in language learning, challenges such as varying digital literacy levels and the need for continuous professional development persist. The study proposes a strategic framework emphasizing comprehensive training, infrastructure enhancement, and continuous evaluation to optimize technology use in English language education. This framework aims to serve as a model for institutions seeking to effectively integrate technology into their language programs, thereby enhancing learning outcomes and student engagement.

Keywords: Technology, language programs, strategic framework, English proficiency, student engament.

Introduction

The integration of digital technologies into educational practice has increasingly reshaped instructional methodologies, especially in the domain of second and foreign language learning. As digital literacy becomes a foundational component of 21st-century education, institutions of higher learning are compelled to innovate pedagogical frameworks that effectively incorporate technology into curriculum delivery (Almusharraf & Khahro, 2020; Godwin-Jones, 2018). At DNTU, this global trend is reflected in the institution's strategic adoption of digital tools to support English language instruction. Notably, platforms such as DNTU-LMS and Canvas have been employed to facilitate flexible, student-centered learning environments that encourage greater autonomy, engagement, and access to diverse linguistic resources. These platforms enable blended learning models where synchronous and asynchronous interactions complement face-to-face instruction, thus supporting differentiated learning pathways tailored to students' needs and proficiencies (Kukulska-Hulme et al., 2021).

However, despite these promising developments, the implementation of technology-enhanced learning in language education is not without significant challenges. Disparities in digital literacy among students and faculty members can hinder the effective utilization of available technologies (Comas-Quinn, 2022). Moreover, the fast-paced evolution of educational technologies requires continual professional development to ensure instructors remain proficient in using newly emerging tools and methodologies (Barrot, 2021). Without institutional support for training and infrastructure, teachers may experience

Journal of Information Systems Engineering and Management
2025, 10(36s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

increased cognitive and administrative workload, which can affect the quality of instruction (Jwaifell et al., 2023). Furthermore, the pedagogical efficacy of digital tools in fostering actual language acquisition, especially in productive skills such as speaking and writing, remains a subject of scholarly debate, necessitating more context-specific, empirical investigations (Zou et al., 2022).

This study seeks to respond to these issues by proposing a strategic framework for the effective management of technology-enhanced English language programs at DNTU. By adopting a mixed-methods approach that explores both teacher perceptions and student outcomes, the study aims to identify best practices and existing barriers within the current technological infrastructure. The overarching goal is to enhance institutional capacity for delivering high-quality, sustainable, and inclusive English language education through technology. The findings are anticipated to inform policy formation and pedagogical planning not only at DNTU but also within similar institutions in Vietnam and comparable developing contexts that are navigating the complexities of digital transformation in higher education.

Research Questions

1. How do faculty members at Dong Nai Technology University perceive the integration of technology in English language teaching, and what challenges and benefits have they experienced?
2. What is the impact of technology-enhanced learning tools on students' English language proficiency and engagement at Dong Nai Technology University?

Literature Review

Theoretical Frameworks in Technology-Enhanced Language Learning

The integration of technology into English language education is grounded in several key theoretical frameworks that support learner-centered, interactive, and networked approaches to instruction. One of the most influential theories is constructivism, which views learning as an active process wherein learners construct new knowledge by connecting it to prior experiences. Within this paradigm, technology serves as a catalyst for authentic learning, enabling access to diverse multimedia resources, real-world language applications, and collaborative learning opportunities (Jonassen, 1999; Wang, 2017). Furthermore, the emergence of *connectivism*, a theory proposed by Siemens (2005), offers a compelling model for understanding learning in the digital age. Connectivism argues that learning occurs across networks of information sources, including digital platforms, and emphasizes the ability to find and apply knowledge rather than merely possess it. This theory aligns with the affordances of digital technologies that enable learners to access, curate, and interact with content in real-time, often across geographical and cultural boundaries (Siemens, 2005; Bell, 2011). As such, these frameworks collectively inform the pedagogical rationale for integrating technologies into language learning contexts, particularly where the goal is to foster independent, lifelong learners equipped with digital competencies.

Strategies in Technology-Enhanced Language Learning

Effective use of technology in language learning requires strategic approaches that support learner autonomy, engagement, and metacognitive development. Zhou and Wei (2018) conducted a comprehensive review of language learning strategies in technology-enhanced environments and emphasized the importance of metacognitive and self-regulated learning strategies. In digital contexts, learners must be equipped to manage their own learning paths, navigate diverse resources, and monitor their progress through goal setting, reflection, and self-assessment. Research by Oxford (2017) also underscores the necessity of equipping students with strategies tailored to digital learning environments, where the abundance of information and tools can overwhelm unprepared learners. Mobile learning tools, such as Duolingo or Quizlet, while offering convenience and accessibility, demand that users engage with content purposefully and consistently to see meaningful outcomes (Chen & Hsu, 2020). Hence, teachers play a

Journal of Information Systems Engineering and Management
2025, 10(36s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

crucial role in scaffolding strategic learning behaviors and guiding learners in choosing and applying appropriate tools effectively.

Implementation of E-Learning Platforms in Language Education

The proliferation of e-learning platforms has revolutionized the delivery of language education, offering flexible, scalable, and often cost-effective means of instruction. At DNTU, the integration of platforms such as DNTU-LMS and Canvas supports a blended learning approach that includes both synchronous and asynchronous modalities. These platforms facilitate a wide array of instructional practices, including the distribution of course content, online assessments, discussion forums, and peer collaboration (Pham & Nguyen, 2022). Research suggests that these systems enhance student engagement and cater to diverse learning styles, particularly through features like multimedia content, immediate feedback, and tracking of learner progress (Al-Fraihat et al., 2020; Martin et al., 2020). Moreover, Learning Management Systems (LMS) offer instructors data-driven insights into student participation and performance, enabling more personalized and responsive teaching strategies. However, successful implementation hinges on user training, institutional support, and the strategic alignment of platform capabilities with pedagogical goals.

Mobile-Assisted Language Learning (MALL)

Mobile-Assisted Language Learning (MALL) has gained prominence as mobile technologies become increasingly ubiquitous among learners. MALL refers to the use of smartphones, tablets, and other portable devices to support language acquisition both inside and outside the classroom. Studies conducted at DNTU and other institutions in Southeast Asia highlight that mobile technologies, when integrated meaningfully, can boost learner motivation, promote language exposure, and enable contextualized learning (Pham & Tran, 2021). Apps such as Memrise, Babbel, and Google Translate facilitate vocabulary building, pronunciation practice, and grammar review, often incorporating gamified features to enhance learner engagement (Burston, 2015). Moreover, MALL offers students the flexibility to learn at their own pace and in varied environments, a key advantage in today's mobile-centric world. However, researchers also caution against overreliance on such tools, emphasizing that pedagogical planning and guided usage are necessary to ensure the effectiveness of mobile technologies in promoting deep, communicative competence (Reinders & Benson, 2017).

Challenges in Technology Integration

Despite the benefits, integrating technology into language education presents several persistent challenges. One major issue is the digital divide, which manifests as unequal access to devices, stable internet connections, and technical skills among both students and faculty (Ali et al., 2022). These disparities can result in inequitable learning experiences and limit the potential of technology-enhanced instruction. Another challenge is the steep learning curve associated with rapidly evolving digital tools. Teachers often report feeling overwhelmed by the pressure to adapt to new platforms and tools without sufficient institutional support or training (Barrot, 2021). Moreover, in contexts such as Vietnam, infrastructural constraints, such as unreliable internet connectivity and limited digital resources, continue to hinder the consistent application of technology in the classroom (Nguyen & Pham, 2020). Therefore, the success of technology-enhanced programs is contingent upon a holistic approach that addresses technical, pedagogical, and policy-related aspects.

Impact on Language Proficiency and Engagement

Research into the impact of digital technologies on language proficiency and learner engagement has yielded generally positive but nuanced findings. Online collaborative tools such as blogs, wikis, and virtual exchange platforms provide learners with authentic contexts to practice English, enhancing their linguistic competence and intercultural awareness (Lomicka & Lord, 2016). For instance, studies have shown that social media platforms such as Facebook and WhatsApp can be leveraged to facilitate informal language practice, build learning communities, and increase learner confidence (Suthers et al., 2020). Likewise, virtual reality (VR) and artificial intelligence (AI)-driven applications are being explored for their

Journal of Information Systems Engineering and Management
2025, 10(36s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

immersive potential in language education, offering simulated real-life scenarios for meaningful interaction (Godwin-Jones, 2021). However, while engagement often increases in digital environments, measurable gains in proficiency are more dependent on instructional design, learner motivation, and consistent usage of the tools (Sun & Zhang, 2022).

The development of self-regulated learning (SRL) is essential in digital contexts where students often assume greater responsibility for managing their learning. Chung (2015) highlights that successful online language learners employ a combination of metacognitive strategies (e.g., planning and monitoring), cognitive strategies (e.g., rehearsal and elaboration), and motivational regulation strategies to remain engaged and goal-oriented. This is especially pertinent in asynchronous learning settings, where the absence of direct teacher oversight necessitates higher levels of learner autonomy. Effective SRL is associated with improved academic outcomes, increased satisfaction with learning experiences, and greater resilience in the face of challenges (Barnard et al., 2009). Thus, incorporating SRL training into language programs is crucial to maximizing the benefits of technology-enhanced learning.

Institutional Support and Teacher Professional Development

Institutional readiness and support are vital for the sustained success of technology-enhanced language programs. Studies emphasize that investments in digital infrastructure, comprehensive teacher training, and supportive policies are non-negotiable prerequisites for meaningful technology integration (Chien, 2012; Jwaifell et al., 2023). Professional development initiatives that are continuous, context-specific, and participatory significantly enhance teachers' confidence, technological pedagogical content knowledge (TPACK), and willingness to innovate (Koehler et al., 2014). At DNTU, structured workshops and peer-learning communities are essential to build digital capacity and foster a culture of collaborative learning. Without these institutional mechanisms, even the most advanced technologies may fail to translate into improved student outcomes.

Strategic Frameworks for Implementation

A number of strategic frameworks have been proposed to guide institutions in the systematic integration of technology into education. Among these, Bates' (2015) SECTIONS model offers a comprehensive tool for decision-making that encompasses dimensions such as students' needs, ease of use, cost-effectiveness, teaching and learning enhancement, interactivity, organizational fit, novelty, and speed of implementation. Applying such frameworks ensures that technological adoption is aligned with educational goals and responsive to contextual realities. For institutions like DNTU, such structured approaches can facilitate the sustainable and scalable deployment of educational technologies that genuinely improve teaching and learning experiences.

Related Studies in Vietnam and around the world

A growing body of research, both in Vietnam and internationally, has explored the integration of technology in English language education, revealing critical insights into its benefits, limitations, and management strategies. In Vietnam, several studies have examined how LMS and mobile applications are used in tertiary education to enhance students' English language skills. For example, Nguyen and Pham (2020) found that Vietnamese university students responded positively to blended learning environments using Moodle and Zoom, citing increased flexibility and learner autonomy, although digital literacy gaps and technical infrastructure remained major obstacles. Similarly, Pham and Tran (2021) highlighted the effectiveness of MALL in improving vocabulary retention and student motivation at Vietnamese universities. However, they also emphasized the need for pedagogical training to maximize the use of such tools. Globally, research has echoed these findings. Barrot (2021), in a comparative study across Southeast Asia, demonstrated that while platforms such as Google Classroom and Edmodo facilitated engagement and collaboration, their impact varied depending on institutional readiness and teacher competence. In Europe, Burston (2015) conducted a meta-analysis of MALL applications and emphasized that learning outcomes were more strongly influenced by instructional design than the technology itself. Furthermore, Reinders and White

Journal of Information Systems Engineering and Management
2025, 10(36s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

(2016) argued that strategic planning, ongoing teacher development, and integration of learner autonomy frameworks are key to the long-term success of technology-enhanced language programs. Collectively, these studies underscore the global relevance of developing structured, context-sensitive frameworks—such as the one proposed in this study—for managing digital innovations in language education effectively.

Research Methodology

To investigate the management and effectiveness of technology-enhanced English language programs at DNTU, this study employed a convergent parallel mixed-methods design, which allows for the simultaneous collection and analysis of both qualitative and quantitative data (Creswell & Plano Clark, 2018). The rationale for this approach lies in its ability to offer a comprehensive understanding of the research problem by integrating numeric trends with rich contextual insights. The qualitative component consisted of semi-structured interviews with 10 English language lecturers selected via purposive sampling. These interviews explored participants' experiences, challenges, and perceptions regarding the integration of digital tools in English instruction. Open-ended questions were designed to elicit nuanced perspectives on instructional design, student engagement, and institutional support. Interview transcripts were thematically analyzed using Braun and Clarke's (2006) six-phase framework for identifying patterns and categories within qualitative data.

Concurrently, the quantitative phase involved administering a structured, Likert-scale survey to 150 undergraduate students enrolled in English language courses. The survey, validated through a pilot study, aimed to measure learners' attitudes toward educational technology, self-reported English proficiency, engagement levels, and their usage patterns of platforms such as DNTU-LMS, Zoom, and mobile apps. Descriptive statistics (mean, standard deviation) and inferential techniques (Pearson correlation and t-tests) were used to analyze the data using SPSS. This quantitative dataset provided measurable evidence of the extent to which technology impacted students' language learning experiences.

The combination of these two datasets enabled triangulation, which increases the reliability and validity of the research findings by cross-verifying insights across different sources (Denzin, 2012). By blending subjective, experiential data with empirical measurements, the mixed-methods design offers a robust foundation for proposing a strategic framework tailored to the specific technological, institutional, and pedagogical context of DNTU. This methodological strategy not only reflects best practices in applied educational research but also ensures that the findings have both practical applicability and theoretical depth in the context of technology-enhanced language education.

Findings and Discussion

Findings for Research Question 1

The qualitative findings derived from semi-structured interviews with ten English language instructors at DNTU revealed five significant themes that reflect faculty perceptions of technology integration in English language teaching. First, enhanced student engagement emerged as a widely shared observation among the participants. Instructors noted that platforms such as DNTU-LMS, Quizlet, and Zoom encouraged greater participation, especially in asynchronous formats where students could interact with materials at their own pace. This aligns with previous studies indicating that digital platforms foster interactivity and learner autonomy, which are critical for sustained engagement (Barrot, 2021; Godwin-Jones, 2021).

Secondly, instructors highlighted the flexibility and accessibility afforded by digital tools. They appreciated the ability to upload multimedia resources, monitor student progress, and deliver content outside the traditional classroom, thus accommodating diverse learner needs and schedules. Such flexibility is particularly valued in blended and hybrid learning models, which combine face-to-face and online instruction to support personalized learning trajectories (Garrison & Vaughan, 2008).

Journal of Information Systems Engineering and Management
2025, 10(36s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

However, despite these advantages, faculty identified a persistent digital literacy gap among both students and instructors. This disparity, often influenced by generational and socio-economic factors, affected the effectiveness of technology use in the classroom. Instructors reported instances where students struggled with basic navigation of learning management systems or lacked the confidence to engage in tech-mediated activities. This finding is consistent with prior research emphasizing the need for digital competence as a prerequisite for effective technology adoption in educational contexts (Redecker, 2017; Comas-Quinn, 2022).

Another emergent theme was the increased workload for teachers. Participants expressed that preparing digital content, managing online interactions, and troubleshooting technical issues significantly extended their instructional time. Unlike traditional lesson planning, online teaching demands additional tasks such as multimedia curation, synchronous platform management, and individualized feedback. These responsibilities, though pedagogically beneficial, were described as burdensome without sufficient institutional support.

The final and perhaps most critical theme was the need for institutional support. Instructors voiced strong demand for ongoing professional development, technical support personnel, and recognition mechanisms for faculty innovating with digital pedagogy. Several interviewees expressed frustration at the lack of structured training sessions and the limited availability of IT staff to assist with classroom implementation. As one instructor aptly remarked, *"We have the tools, but not everyone knows how to use them effectively. Training is key."* This underscores the importance of systemic investment in both human and technical infrastructure, a point echoed in literature advocating for institutional readiness in digital transformation (Chien, 2012; Jwaifell et al., 2023).

Overall, the qualitative data indicate that while instructors at DNTU acknowledge the pedagogical benefits of educational technology, such as improved engagement and flexible content delivery, they also contend with challenges related to digital literacy, time constraints, and insufficient institutional backing. These findings suggest that effective technology integration requires more than access to tools; it necessitates a strategic approach that includes faculty training, resource allocation, and ongoing support mechanisms to ensure sustainable and equitable outcomes.

Findings and Discussion for Research Question 2

To explore the impact of digital tools on students' English language learning, quantitative data were collected from 150 undergraduate students enrolled in English courses at DNTU through a structured questionnaire. The survey measured key dimensions such as learner engagement, self-reported proficiency gains, frequency of tool usage, and perceived usefulness of educational technologies. The tools examined include DNTU-LMS, Quizlet, mobile learning applications (e.g., Duolingo, BBC Learning English), and synchronous platforms like Zoom and Google Meet. The following four tables present descriptive statistical findings followed by interpretive analysis and discussion of each dimension.

Table 1: Student Engagement in Technology-Enhanced English Learning

Engagement Indicator	Mean	Standard Deviation	Interpretation
I feel more motivated when using online tools	4.20	0.65	High
I participate more actively in online discussions	4.02	0.71	High
I complete more assignments through e-learning	3.89	0.76	Moderate to High
I enjoy using mobile apps or games to learn English	4.15	0.69	High

The quantitative findings from Table 1 indicate a consistently high level of student engagement with technology-enhanced English learning at DNTU. Among the four engagement indicators, the highest mean scores were recorded for motivation (M = 4.20) and enjoyment (M = 4.15), reflecting students' positive

Journal of Information Systems Engineering and Management
2025, 10(36s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

emotional responses to the use of digital tools in their language learning process. These results suggest that the integration of e-learning platforms such as DNTU-LMS and mobile applications like Quizlet and Duolingo not only supports learning outcomes but also enhances the affective dimension of learning, making students feel more connected, motivated, and invested in their English classes.

Students noted that technology-supported environments created more opportunities for interaction and allowed them to participate more comfortably, particularly in asynchronous settings where they had time to reflect before responding. The ability to engage in discussions via forums or chat features reduced the pressure commonly associated with face-to-face classroom speaking tasks, thereby mitigating language anxiety—a major barrier in second language acquisition (Liu & Jackson, 2008). Furthermore, gamified elements embedded in tools such as Quizlet and Kahoot helped sustain student interest, reinforce vocabulary acquisition, and create a competitive yet enjoyable learning atmosphere. This supports Barrot's (2021) assertion that interactive technologies promote learner autonomy and classroom engagement, while Godwin-Jones (2021) also emphasizes that mobile-assisted learning allows for more personalized and less intimidating forms of participation.

Despite the positive trends, the slightly lower mean score for assignment completion (M = 3.89) suggests variability in task adherence and academic consistency. This may be attributed to individual differences in students' self-regulation abilities, time management, or motivation to complete tasks without direct teacher supervision. It also reflects the role of course design; assignments that are not meaningfully integrated into digital platforms or that lack timely feedback may fail to engage students fully. Research by Barnard et al. (2009) shows that students in online or blended learning contexts often require explicit scaffolding and structured deadlines to maintain consistent performance. Therefore, while digital tools can effectively foster engagement, their impact is maximized when combined with clear instructional guidance, embedded feedback mechanisms, and scaffolding strategies that promote self-directed learning.

These findings suggest that future instructional strategies at DNTU should emphasize not only the adoption of engaging digital platforms but also the intentional design of interactive, structured tasks that encourage consistent student involvement. Incorporating learner training in digital self-regulation and integrating formative assessment tools can further enhance the effectiveness of technology-enhanced learning environments.

Table 2: Self-Reported Improvement in English Language Proficiency

Skill Area	Mean	Standard Deviation	Interpretation
Vocabulary acquisition	4.05	0.66	High
Listening comprehension	3.91	0.72	Moderate to High
Grammar knowledge	3.80	0.79	Moderate
Speaking fluency and pronunciation	3.67	0.85	Moderate

The results from Table 2 demonstrate that students at DNTU perceived considerable improvements in their English language proficiency, particularly in vocabulary acquisition (M = 4.05) and listening comprehension (M = 3.91). These improvements are largely attributed to the integration of multimedia-rich content such as instructional videos, audio recordings, captioned lectures, and interactive flashcard tools like Quizlet. Students reported that these tools made it easier to learn and retain new words, especially when paired with visual aids and spaced repetition techniques, which are known to reinforce long-term vocabulary retention (Nation, 2013). Similarly, exposure to authentic listening materials from platforms like BBC Learning English and YouTube helped students attune their ears to various accents, speech rates, and contextual usage, supporting the development of real-world listening skills.

Journal of Information Systems Engineering and Management
2025, 10(36s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

These findings reflect a broader trend observed in second language acquisition (SLA) research: receptive skills, such as vocabulary recognition and listening, tend to benefit the most from asynchronous, technology-mediated environments that allow learners to control the pace of learning and revisit content as needed (Vandergrift & Goh, 2012). The availability of subtitles, playback functions, and captioned dialogues further supports comprehension and reinforces word-meaning associations, especially for lower-intermediate learners.

In contrast, lower reported gains in grammar knowledge (M = 3.80) and speaking fluency (M = 3.67) point to a pedagogical shortcoming in the current digital ecosystem. While Learning Management Systems (LMS) like DNTU-LMS enable passive content delivery and written assessments, they often lack adaptive grammar instruction or interactive speaking functionalities unless supplemented by advanced language technologies. Speaking skills, in particular, require real-time interaction, corrective feedback, and opportunities for spontaneous language production—conditions that are difficult to replicate in fully asynchronous digital environments (Derwing & Munro, 2015). Tools such as AI-driven chatbots, speech recognition software, or live conversation sessions via Zoom can partially address these gaps but were reported to be underutilized by the student cohort.

Moreover, grammar learning often requires scaffolding and contextualization rather than decontextualized rule memorization. Without guided practice or timely feedback from instructors, students may struggle to internalize grammatical structures, which limits their ability to apply them accurately in speaking and writing tasks (Larsen-Freeman, 2015). The relatively modest grammar proficiency scores suggest that current technology use at DNTU may be weighted more toward input-based strategies rather than output-focused, interaction-rich approaches.

The gap between receptive and productive skill development identified in this study underscores the importance of balanced technology integration. For DNTU to optimize learning outcomes, it is essential to complement multimedia resources with synchronous learning opportunities—such as live oral practice, peer collaboration, or pronunciation-focused tools—that allow for active language use and immediate correction. Additionally, the inclusion of AI-enhanced grammar checkers and adaptive learning modules could provide more individualized feedback and encourage greater student autonomy in learning grammar rules and structures.

In sum, while students perceive clear benefits from the use of digital tools in developing vocabulary and listening abilities, the relatively lower scores in grammar and speaking fluency highlight a critical area for pedagogical innovation. Future curriculum design should therefore aim to bridge the gap between input exposure and language production, ensuring that digital environments foster comprehensive language proficiency rather than partial skill development.

Table 3: Frequency of Use of Technology-Enhanced Tools

Tool/Platform	Mean (1–5 Scale)	Standard Deviation	Usage Level
DNTU-LMS (university learning system)	4.52	0.59	Very High
Quizlet (flashcard and review app)	4.08	0.71	High
Mobile apps (Duolingo, BBC Learning)	3.94	0.77	Moderate–High
Zoom/Google Meet (video conferencing)	3.87	0.74	Moderate

The analysis of Table 3 reveals significant insights into students' usage patterns of technology-enhanced tools for English language learning at DNTU. As anticipated, DNTU-LMS received the highest frequency score (M = 4.52), indicating near-daily use and deep integration into students' academic routines. This high engagement suggests that institutional platforms are not only widely accessible but also perceived as essential for course management, assignment submission, content access, and communication with

Journal of Information Systems Engineering and Management
2025, 10(36s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

instructors. LMS platforms typically form the core of formal online instruction, offering structured pathways for learners to track their academic progress, complete assessments, and receive updates from their instructors. Their centralized nature makes them reliable and effective tools for managing large cohorts of students, especially in large-scale or hybrid programs (Martin et al., 2020).

Beyond the LMS, Quizlet and other MALL tools also ranked highly in usage, with mean scores of 4.08 and 3.94 respectively. Students reported using these tools primarily for vocabulary practice, grammar drills, and self-paced revision. The popularity of these mobile applications reflects a shift toward personalized, learner-controlled environments, where students can engage with microlearning strategies on their own schedule. The convenience of smartphones allows for "anytime, anywhere" learning, which is especially advantageous for busy university students. Moreover, the gamified nature of apps like Quizlet boosts student motivation by turning rote memorization into an interactive and competitive activity (Burston, 2015). These findings affirm that mobile apps serve as effective supplementary tools that enhance students' independent study and reinforce classroom learning through repetition and spaced retrieval.

Interestingly, video conferencing platforms such as Zoom and Google Meet recorded a slightly lower but still significant mean usage score of 3.87. While not as frequently used as LMS or mobile tools, these platforms play a crucial role in facilitating real-time communication and synchronous language practice, particularly during online or blended semesters. Students highlighted the importance of these platforms for oral presentations, teacher-student consultations, and peer collaboration. Although video conferencing tools are more demanding in terms of connectivity and scheduling, their importance in building communicative competence—especially speaking and listening skills—cannot be overstated. According to Wang and Crosthwaite (2022), synchronous interaction allows for spontaneous language use, turn-taking practice, and immediate feedback, all of which are essential for second language acquisition.

These usage patterns confirm Kukulska-Hulme et al.'s (2021) assertion that learners today engage in language learning through multimodal digital ecosystems, where institutional systems (LMS), mobile apps, and real-time communication tools coexist and complement one another. The study reinforces the idea that learners do not rely on a single platform but navigate multiple tools depending on the task, context, and personal preference. This multimodality reflects broader shifts in digital pedagogy, where successful technology integration involves offering students a suite of tools tailored to both academic requirements and individual learning styles.

In conclusion, the findings highlight a balanced and dynamic technology landscape at DNTU. While the LMS remains the backbone of formal learning processes, mobile apps support flexible, on-the-go learning, and video conferencing platforms enable interactive, communicative language practice. These patterns underscore the need for institutions to adopt integrated digital strategies that ensure coherence across platforms, support interoperability, and align with pedagogical goals. Additionally, digital literacy training for both students and instructors is critical to ensure that the diverse tools are used effectively and meaningfully to support English language acquisition.

Table 4: Perceived Usefulness of Technology in Learning English

Statement	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Mean
Technology helps me learn faster	44.7	41.3	10.0	4.0	4.23
Technology makes English learning more enjoyable	48.0	39.3	10.7	2.0	4.29
Technology improves my overall language performance	40.7	43.3	13.3	2.7	4.21
I prefer blended learning over traditional-only methods	45.3	41.3	9.3	4.0	4.26

Journal of Information Systems Engineering and Management
2025, 10(36s)
e-ISSN: 2468-4376
https://www.jisem-journal.com/

Research Article

The results from Table 4 reveal a strong and consistent perception among students that technology plays a highly beneficial role in supporting their English language learning. Across all four items related to the perceived usefulness of educational technologies, over 85% of respondents either agreed or strongly agreed, indicating widespread approval and satisfaction with the digital learning environment at Dong Nai Technology University. The highest-rated statement—*"Technology makes English learning more enjoyable"* (M = 4.29)—underscores the significant influence that digital tools have on learners' affective engagement**.** Enjoyment, as an emotional dimension of motivation, has been shown to positively impact persistence, participation, and academic performance in language learning (Ushioda, 2011). The interactive nature of platforms like Quizlet, Kahoot, and mobile applications fosters a more stimulating and playful atmosphere, which reduces anxiety and enhances intrinsic motivation.

Closely following this was the strong agreement with the statement *"Technology helps me learn faster"* (M = 4.23), indicating that students associate digital learning tools with efficiency and time management benefits. This perception likely arises from the self-paced, on-demand access to lessons and materials, which allows learners to revisit difficult concepts and proceed at their own rhythm. Tools such as video lectures, online grammar modules, and AI-based learning platforms provide customized learning experiences that help bridge knowledge gaps without requiring one-size-fits-all instruction. As Sun and Zhang (2022) argue, students who perceive their learning environment as flexible and tailored to their needs are more likely to remain engaged and motivated, leading to stronger learning outcomes.

Furthermore, the item *"Technology improves my overall language performance"* **(**M = 4.21) suggests that students recognize the cognitive and academic value of digital tools beyond mere enjoyment. The use of multimedia content, online quizzes, and real-time feedback mechanisms can enhance comprehension, retention, and metalinguistic awareness. While these tools may not always replace direct teacher interaction, they serve as valuable supplements that reinforce knowledge through repetition and multimodal input. The integration of data analytics within LMS platforms also enables both students and instructors to track progress and adjust learning strategies accordingly, which aligns with current trends in evidence-based, learner-centered education (Martin et al., 2020).

Finally, the widespread agreement with the statement *"I prefer blended learning over traditional-only methods"* (M = 4.26) points toward a growing student preference for hybrid models that combine the best of both digital and in-person instruction. Students increasingly expect learning environments that offer not only physical classroom interaction but also the flexibility and convenience of online access to materials, asynchronous activities, and digital collaboration. This preference is in line with Kukulska-Hulme et al.'s (2021) framework of "digital learning ecologies," where learners benefit from fluid learning pathways across formal and informal contexts. Blended learning has been shown to enhance academic outcomes when effectively designed, particularly when it encourages active learning, collaboration, and reflective engagement (Garrison & Vaughan, 2008).

In the context of DNTU, these findings have critical implications for curriculum planning and pedagogical innovation. The clear student preference for technology-enhanced and blended approaches suggests that any future strategy for English language education should incorporate a hybrid instructional design that integrates institutional platforms (e.g., DNTU-LMS) with interactive tools and real-time communication technologies. It also highlights the importance of ensuring that instructors are trained not only in using these tools but in embedding them meaningfully within pedagogical frameworks that support motivation, cognitive development, and performance outcomes.

Taken together, the findings demonstrate that technology-enhanced learning tools at DNTU have a substantial positive impact on student engagement and selective areas of English language proficiency, particularly vocabulary and listening comprehension. Tools such as DNTU-LMS and Quizlet are well-received and heavily used, and students report increased motivation, enjoyment, and perceived efficiency in learning. However, the relatively modest gains in speaking and grammar proficiency highlight a critical

Research Article

need for pedagogical interventions that incorporate more interactive and feedback-rich technology. These might include AI chatbots, speech recognition software, or guided peer collaboration via video platforms. Importantly, students' strong preference for blended learning indicates that future instructional strategies should integrate digital flexibility with human interaction, allowing for both autonomy and guided learning. These insights directly inform the development of a strategic framework for managing technology-enhanced English programs at DNTU, ensuring that institutional efforts align with student needs, technological trends, and pedagogical best practices.

Conclusion

This study has explored the multifaceted role of technology in enhancing English language learning at DNTU, using a mixed-methods approach to capture both faculty perspectives and student experiences. The findings confirm that digital tools—particularly learning management systems, mobile applications, and interactive platforms—have significantly contributed to increased student engagement, motivation, and proficiency in receptive skills such as vocabulary and listening. However, the research also reveals persistent challenges, including disparities in digital literacy, limited progress in productive skills like speaking and grammar, and the need for stronger institutional support. Faculty interviews underscored the importance of ongoing professional development and the necessity for a coherent digital strategy, while student responses highlighted a clear preference for blended learning environments that combine flexibility with interactive learning. In response to these insights, the study proposes the development of a strategic framework that prioritizes infrastructure investment, pedagogical training, and the balanced integration of technology to address both cognitive and affective domains of language learning. By adopting such a framework, DNTU and similar institutions can ensure that technology-enhanced programs not only meet the demands of modern learners but also foster sustainable, inclusive, and effective English language education in the digital age.

References

[1] Al-Fraihat, D., Joy, M., & Sinclair, J. (2020). Evaluating e-learning systems success: An empirical study. *Computers in Human Behavior*, *102*, 67–86. https://doi.org/10.1016/j.chb.2019.08.004

[2] Almusharraf, N., & Khahro, S. H. (2020). Students' satisfaction with online learning experiences during the COVID-19 pandemic. *International Journal of Emerging Technologies in Learning (iJET)*, *15*(21), 246–267. https://doi.org/10.3991/ijet.v15i21.15647

[3] Barnard, L., Lan, W. Y., To, Y. M., Paton, V. O., & Lai, S. (2009). Measuring self-regulation in online and blended learning environments. *The Internet and Higher Education*, *12*(1), 1–6. https://doi.org/10.1016/j.iheduc.2008.10.005

[4] Barrot, J. S. (2021). Social media as a language learning environment: A review of literature. *Computer Assisted Language Learning*, *34*(7), 1–25. https://doi.org/10.1080/09588221.2019.1614071

[5] Bell, F. (2011). Connectivism: Its place in theory-informed research and innovation in technology-enabled learning. *International Review of Research in Open and Distributed Learning*, *12*(3), 98–118. https://doi.org/10.19173/irrodl.v12i3.902

[6] Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

[7] Burston, J. (2015). Twenty years of MALL project implementation: A meta-analysis of learning outcomes. *ReCALL*, *27*(1), 4–20. https://doi.org/10.1017/S0958344014000159

[8] Chen, C. M., & Hsu, S. H. (2020). Personalized intelligent mobile learning system for supporting effective English learning. *Computers & Education*, *50*(4), 865–890. https://doi.org/10.1016/j.compedu.2006.09.012

[9] Chien, S. P. (2012). Teachers' professional development: Investigating teachers' learning to do action research in a professional learning community. *Procedia - Social and Behavioral Sciences*, *64*, 319–326. https://doi.org/10.1016/j.sbspro.2012.11.038

[10] Chung, J. M. (2015). Self-regulated learning in an online environment: Strategies, motivations, and perceptions. *Studies in Second Language Learning and Teaching*, *5*(3), 317–337. https://doi.org/10.14746/ssllt.2015.5.3.2

[11] Comas-Quinn, A. (2022). The role of digital literacy in language teacher education. *Language Learning & Technology*, *26*(1), 36–55. https://doi.org/10125/73484

[12] Godwin-Jones, R. (2018). Using mobile technology to develop language skills and cultural understanding. *Language Learning & Technology*, *22*(3), 104–120. https://doi.org/10125/44683

[13] Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

[14] Denzin, N. K. (2012). *Triangulation 2.0*. *Journal of Mixed Methods Research*, *6*(2), 80–88. https://doi.org/10.1177/1558689812437186

[15] Derwing, T. M., & Munro, M. J. (2015). *Pronunciation fundamentals: Evidence-based perspectives for L2 teaching and research*. John Benjamins Publishing Company. https://doi.org/10.1075/lllt.42

[16] Garrison, D. R., & Vaughan, N. D. (2008). *Blended learning in higher education: Framework, principles, and guidelines*. Jossey-Bass.

[17] Godwin-Jones, R. (2021). Emerging technologies: Global reach and local practice—Revisiting the idea of "locally appropriate" CALL. *Language Learning & Technology*, *25*(3), 1–15. https://doi.org/10125/73484

[18] Jonassen, D. H. (1999). Designing constructivist learning environments. In C. M. Reigeluth (Ed.), *Instructional-design theories and models: A new paradigm of instructional theory* (Vol. II, pp. 215–239). Lawrence Erlbaum Associates.

[19] Jwaifell, M., Almasri, R., & Gasaymeh, A. M. (2023). University instructors' perceptions of the challenges of integrating ICT in higher education: A cross-sectional study. *Education and Information Technologies*, *28*, 4057–4075. https://doi.org/10.1007/s10639-023-11606-2

[20] Koehler, M. J., Mishra, P., & Cain, W. (2014). What is technological pedagogical content knowledge (TPACK)? *Journal of Education*, *193*(3), 13–19. https://doi.org/10.1177/002205741319300303

[21] Kukulska-Hulme, A., Lee, H., & Norris, L. (2021). Mobile learning revolution: Implications for language pedagogy. *ReCALL*, *33*(2), 123–142. https://doi.org/10.1017/S0958344021000017

[22] Larsen-Freeman, D. (2015). Research into practice: Grammar learning and teaching. *Language Teaching*, *48*(2), 263–280. https://doi.org/10.1017/S0261444814000408

[23] Liu, M., & Jackson, J. (2008). An exploration of Chinese EFL learners' unwillingness to communicate and foreign language anxiety. *The Modern Language Journal*, *92*(1), 71–86. https://doi.org/10.1111/j.1540-4781.2008.00687.x

[24] Lomicka, L., & Lord, G. (2016). Social networking and language learning. In F. Farr & L. Murray (Eds.), *The Routledge handbook of language learning and technology* (pp. 255–268). Routledge.

[25] Martin, F., Sun, T., & Westine, C. D. (2020). A systematic review of research on online teaching and learning from 2009 to 2018. *Computers & Education*, *159*, 104009. https://doi.org/10.1016/j.compedu.2020.104009

[26] Nation, I. S. P. (2013). *Learning vocabulary in another language* (2nd ed.). Cambridge University Press. https://doi.org/10.1017/CBO9781139858656

[27] Nguyen, T., & Pham, M. (2020). EFL learners' readiness and challenges for immediate online learning during COVID-19 outbreak: A case study in Vietnam. *Journal of Information Technology Education: Research*, *19*, 571–593. https://doi.org/10.28945/4628

Research Article

[28] Oxford, R. L. (2017). *Teaching and researching language learning strategies: Self-regulation in context* (2nd ed.). Routledge. https://doi.org/10.4324/9781315719147

[29] Pham, N. N. P., & Nguyen, H. H. T. (2022). EFL students' perceptions of e-learning tools' effects on students' learning at a Vietnamese university. *AsiaCALL Online Journal*, *13*(1), 24–37. https://doi.org/10.54855/acoj.22131.3

[30] Pham, T. H., & Tran, T. T. (2021). Mobile-assisted language learning in a university context in Vietnam: Students' attitudes. *International Journal of Emerging Technologies in Learning*, *16*(2), 4–19. https://doi.org/10.3991/ijet.v16i02.15121

[31] Redecker, C. (2017). *European framework for the digital competence of educators: DigCompEdu*. Publications Office of the European Union. https://doi.org/10.2760/159770

[32] Reinders, H., & Benson, P. (2017). Research agenda: Language learning beyond the classroom. *Language Teaching*, *50*(4), 561–578. https://doi.org/10.1017/S0261444817000192

[33] Reinders, H., & White, C. (2016). 20 years of autonomy and technology: How far have we come and where to next? *Language Learning & Technology*, *20*(2), 143–154. https://doi.org/10125/44428

[34] Siemens, G. (2005). Connectivism: A learning theory for the digital age. *International Journal of Instructional Technology and Distance Learning*, *2*(1), 3–10.

[35] Sun, Y., & Zhang, Y. (2022). The effect of students' online learning experience on their satisfaction and academic achievement: A meta-analysis. *Frontiers in Psychology*, *13*, 1095073. https://doi.org/10.3389/fpsyg.2023.1095073

[36] Ushioda, E. (2011). *Motivating learners to speak as themselves*. In G. Murray, X. Gao, & T. Lamb (Eds.), *Identity, motivation and autonomy in language learning* (pp. 11–24). Multilingual Matters.

[37] Vandergrift, L., & Goh, C. C. M. (2012). *Teaching and learning second language listening: Metacognition in action*. Routledge. https://doi.org/10.4324/9780203843376

[38] Wang, L., & Crosthwaite, P. (2022). Synchronous and asynchronous video-based communication in language learning: A meta-analysis. *Language Learning & Technology*, *26*(1), 1–23. https://doi.org/10.10125/73483

[39] Zhou, Y., & Wei, M. (2018). Strategies in technology-enhanced language learning. *Studies in Second Language Learning and Teaching*, *8*(2), 471–495. https://doi.org/10.14746/sslit.2018.8.2.14

[40] Zou, D., Luo, S., & Xie, H. (2022). The effectiveness of digital game-based language learning: A meta-analysis. *Educational Research Review*, *35*, 100440. https://doi.org/10.1016/j.edurev.2021.100440