International Journal of Learning, Teaching and Educational Research
Vol. 24, No. 9, pp. 694-712, September 2025
https://doi.org/10.26803/ijlter.24.9.34
Received May 12, 2025; Revised Aug 14, 2025; Accepted Aug 19, 2025

Technology-Supported English Language Learning for Non-English Majors at Under-Resourced Vietnamese Universities

Luong Manh Ha*
Tan Trao University, TuyenQuang Province,
Hanoi, VietNam

Abstract. This study investigates how technology supports English language learning among non-English majors at under-resourced Vietnamese universities, where socio-economic and infrastructural limitations impede traditional instruction. Drawing on the TPACK framework and Rogers' diffusion of innovations theory, and employing a mixed-methods approach, the research investigates how students and lecturers adopt and integrate digital tools in these challenging settings. Quantitative data were collected through an online survey of 250 students and 30 lecturers from three local universities in Northern Vietnam. Additionally, semi-structured interviews were conducted with 10 stakeholders, including institutional leaders and recruiters. The findings reveal that although students generally display positive attitudes toward technology, their access and digital competence remain uneven. Lecturers often struggle with inadequate training and institutional support, despite recognizing the potential of tools such as Zoom, Google Classroom, and Zalo. Thematic analysis of interviews highlights both enablers and inhibitors of effective technology integration, including digital literacy gaps, resistance to change, and contextual constraints. Based on the data, the study proposes a three-level support model for enhancing digital learning in similar contexts: (1) institutional investment in infrastructure and professional development; (2) adaptive curriculum design aligned with learner needs; and (3) community-based support systems to foster autonomy and engagement. This paper contributes to the growing body of research on technology-assisted language education in developing countries and offers implications for policy and practice in Vietnam and comparable settings.

Keywords: Technology Integration; English Language Teaching; Non-English Majors; Rural Universities; Blended Learning

*Corresponding author: Luong Manh Ha; *lmha.dhtt2024@gmail.com*

1. Introduction

In developing countries, the integration of technology in English language education is often constrained by limited infrastructure, financial resources, and digital literacy. While educational technology has shown promise in enhancing learner engagement and autonomy, its adoption in under-resourced settings remains inconsistent and uneven. Vietnam exemplifies this challenge, particularly in regional universities serving non-English majors, where institutional investment and teacher training are often inadequate. These challenges are not unique to Vietnam. Similar issues have been documented in countries such as Bangladesh (Rahman et al., 2019), Cambodia (Kigotho, 2021), and parts of Sub-Saharan Africa (Unwin et al., 2020), where efforts to integrate ICT in education frequently face systemic barriers, including unstable internet access, lack of teacher preparedness, and policy misalignment.

1.1 Background and Rationale

1.1.1 Global Trends in Integrating Technology into English Language Teaching

In the context of globalization and rapid technological advancements, the integration of technology into English language teaching has become an essential trend in education. Technologies such as artificial intelligence (AI), machine learning, virtual reality (VR), and blended learning are being widely applied to enhance the effectiveness of teaching and learning. According to the British Council (2024), digital transformation in English language teaching is creating opportunities for flexible, personalized learning environments that meet the diverse needs of students globally.

Language learning technologies have been shown to have a positive impact on learners' language skills. For example, language learning apps like Duolingo and Elsa Speak utilize AI to provide personalized feedback, helping learners improve their pronunciation, grammar, and vocabulary. The use of online learning platforms such as Google Classroom and Zoom has also provided opportunities for distance learning and blended learning, enabling students to enhance their communication skills and language proficiency in diverse contexts (Wang, 2023; Nguyen & Dao, 2022). With the rapid development of technology, the integration of digital tools has become a critical factor in modern English language teaching.

1.1.2 Policies and Directions in Vietnam

Promoting foreign language proficiency, particularly in English, has been identified as a strategic priority in Vietnam's national agenda for educational reform and international integration. Through the Ministry of Education and Training (MOET), the Vietnamese government has enacted a series of comprehensive policies aimed at enhancing the effectiveness of English language instruction. These initiatives place particular emphasis on improving teaching quality at regional universities and in under-resourced rural areas, recognizing their critical role in reducing educational disparities and fostering equitable access to global opportunities.

The National Foreign Language Project 2025–2030, approved by the Vietnamese government in 2023, aims to enhance foreign language proficiency, particularly for non-English majors and students from disadvantaged regions. This initiative

highlights the integration of information technology and digital transformation as key strategies to improve language teaching and learning (MOET, 2023). Similarly, the 2018 General Education Program introduced significant reforms in English language teaching, emphasizing the incorporation of digital tools to enhance student engagement with online platforms and distance learning (MOET, 2018). Moreover, Conclusion No. 91-KL/TW (2024) underlines the importance of technology in education reform, advocating for its use to enhance teaching efficiency and foster creativity and self-directed learning among students, with a focus on equipping higher education institutions with the necessary technological resources (Central Committee of the Communist Party of Vietnam, 2024).

Despite these policy advances, local universities face persistent challenges, including low proficiency levels of English and limited infrastructure for modern teaching methods. Universities in remote areas, such as Hung Vuong, Tay Bac, Ha Long, and Tan Trao, experience even greater difficulties due to inadequate access to digital learning tools and online platforms, hindering students' language learning experiences. However, these challenges offer a unique opportunity for the development of tailored technological solutions to improve English language education in these regions.

1.2 Rationale and Research Questions

Research on the integration of technology in English language teaching (ELT) has flourished over the past decade. Several studies have highlighted the effectiveness of digital tools and platforms in enhancing students' language skills. For instance, research by Cheng (2021) demonstrated that digital tools such as educational apps and online platforms promote autonomous learning, increase student engagement, and facilitate better language acquisition. Likewise, a study by Johnson and Brown (2022) explored how virtual classrooms and online learning systems have revolutionized language learning by providing flexible and accessible learning environments.

However, a key gap in the literature is the lack of focused research on the challenges and opportunities for technology integration in resource-constrained settings, particularly in universities in developing countries like Vietnam. While studies like those by Lee and Lee (2023) examine the benefits of technology in developed countries, there is limited attention to how technology can be effectively deployed in regions with poor infrastructure and limited access to technological resources.

While the government in Vietnam has actively implemented policies to promote English language learning through technology, research on the practical applications of these policies at local universities remains sparse. Previous studies, such as those by Dao and Nguyen (2020) and Tran (2021), have explored technology integration in major urban universities, but there is a distinct lack of focus on non-English majors in rural and under-resourced universities, especially those in areas with a low level of English proficiency.

Furthermore, the adoption of blended learning and online learning tools in rural universities remains an under-explored area. Many studies have shown that blended learning has a positive impact on student performance (Nguyen & Tran, 2022), but there is insufficient evidence on how such methods are being adapted to the specific needs of students from economically disadvantaged regions.

A notable gap in the current research is the absence of studies addressing the unique challenges faced by students in local universities like Hung Vuong University, Tay Bac University, Ha Long University, and Tan Trao University. These universities serve students with limited exposure to English and few opportunities for learning outside the classroom. The lack of resources and technological infrastructure in these institutions makes it difficult to implement modern pedagogical approaches effectively.

To address the aforementioned gaps, it is crucial to conduct research focused on non-English majors in local universities where economic constraints and infrastructural limitations hinder effective language learning. Research in this area can provide valuable insights into how technology can be used effectively in such settings to support the development of English language skills. Furthermore, understanding how students in these contexts adapt to online and blended learning approaches can inform future policy and practice to improve the quality of education in under-served regions.

Given the context of rapid digital transformation in education and the urgency of improving English proficiency among students in rural Vietnam, there is an immediate need to explore how universities can leverage technology in a way that is accessible, practical, and sustainable for all students, regardless of their socio-economic background. This research gap must be addressed to ensure that technology-enhanced learning does not exacerbate existing educational inequalities.

Although recent studies in Vietnam have examined technology use in language learning, most focus on well-funded institutions or urban contexts, leaving a critical gap in understanding how technology supports English learning among non-English majors in rural or under-resourced universities. Furthermore, limited research combines both student and teacher perspectives while also incorporating feedback from institutional stakeholders. This study addresses these gaps by exploring how technology is adopted, adapted, and resisted in three regional Vietnamese universities with modest digital infrastructure. The following research questions guide the study:

1. How do students and lecturers at under-resourced universities perceive and use educational technologies in English language learning?
2. What challenges and opportunities arise when implementing technology-supported instruction in such contexts?

1.3 Research Objectives

Based on the gaps identified in the existing literature and the pressing need for equitable and effective English language education in under-resourced Vietnamese universities, this study aims to investigate how technology can support the teaching and learning of English for non-English majors in these contexts. The focus is placed on local institutions such as Hung Vuong University, Tay Bac University, Ha Long University, and Tan Trao University, where students typically face significant socio-economic and technological constraints.

The overall aim of this research is to contribute empirical evidence and pedagogical insights that inform the design of more inclusive, adaptable, and effective English language programs for students with limited access to technological infrastructure and early English language education.

1.3.1 Research Objectives

1) To examine the current status of technology use in English language teaching and learning among non-English majors at selected local Vietnamese universities.
2) To explore teachers' and students' perceptions and experiences regarding the integration of technology into English teaching in under-resourced settings.
3) To identify challenges and barriers that hinder the effective use of online and blended learning in English education at local universities.
4) To assess the pedagogical effectiveness of technology-enhanced approaches (e.g., Learning Management Systems, mobile apps, video conferencing tools) in improving students' English proficiency.
5) To propose context-appropriate solutions and strategies for integrating educational technology into English teaching practices for non-English majors at Vietnamese local universities.

1.3.2 Research Questions

The research will be guided by the following questions:
1) What types of technology are currently being used in English language teaching and learning for non-English majors at local universities in Vietnam?
2) How do students and teachers perceive the effectiveness of these technologies?
3) What are the main socio-economic, infrastructural, and pedagogical challenges in implementing blended or online learning at these institutions?
4) How does the use of educational technology affect students' motivation, engagement, and language proficiency?
5) What practical solutions can be recommended to improve the integration of technology into English education in resource-limited universities?

By addressing these questions, the study will fill a critical gap in the literature and provide evidence-based recommendations to policymakers, educators, and administrators on how to effectively implement digital innovations in foreign language education for marginalized student populations in Vietnam.

2. Literature Review

This section synthesizes recent research on the intersection between technology and language education, particularly as it relates to higher education in developing countries like Vietnam. The review focuses on five key areas: (1) socio-

economic and technological inequities in higher education, (2) technology integration in language education, (3) blended learning in EFL contexts, (4) challenges in teaching English to non-English majors, and (5) theoretical frameworks that guide this study.

2.1 Technology Integration in English Language Teaching

Over the past two decades, technological integration has played an increasingly vital role in enhancing language learning, particularly in contexts where traditional methods fall short. Research highlights the potential of tools such as learning management systems (LMS), video conferencing, and mobile applications to facilitate learner autonomy, increase interaction, and personalize instruction (Golonka et al., 2014; Lai, 2017). In resource-limited settings, however, technology often functions as a supplement rather than a replacement for conventional pedagogy due to uneven access and digital disparities (OECD, 2021).

Studies from developing countries reveal that while learners are generally enthusiastic about educational technologies, institutional and technical barriers limit their effective use (Rahman et al., 2019; Kigotho, 2021). In rural Cambodia, for example, digital tools helped improve pronunciation and vocabulary learning but lacked sustainability due to weak ICT infrastructure (Seng & Dy, 2020). These findings align with Vietnam's regional universities where digital integration remains fragmented and often relies on teachers' improvisation.

2.2 Theoretical Framework: Technological Pedagogical Content Knowledge (TPACK) and Diffusion of Innovations

This study draws on the **TPACK framework** (Mishra & Koehler, 2006) to examine how teachers' technological, pedagogical, and content knowledge intersect in technology-mediated English instruction. The TPACK model is particularly relevant in low-resource contexts, where teachers must adapt to digital tools without formal training or institutional support.

Additionally, **Rogers' (2003) Diffusion of Innovations Theory** informs the analysis of technology adoption patterns among students and teachers. Rogers' model highlights the roles of perceived usefulness, social influence, and contextual readiness in determining whether innovations succeed or fail. Together these frameworks provide a lens to evaluate not only what tools are used, but how and why they are adopted, or resisted, in localized educational environments.

2.3 Blended Learning and Online Platforms in EFL Contexts

Blended learning, combining face-to-face and online instruction, has gained traction as a viable model for language teaching. Nguyen and Dao (2022) found that blended learning increases student autonomy and allows for more personalized instruction. Their study with Vietnamese university students demonstrated that integrating Moodle, Zoom, and other platforms enhanced engagement and participation in English classes. Similarly, Sharma et al. (2021) noted that online platforms can provide access to authentic materials and foster interactive communication when used effectively. However, successful

implementation requires stable infrastructure, teacher readiness, and student familiarity with self-directed learning. These requirements pose challenges in rural Vietnamese universities, where technical issues, lack of training, and poor student motivation often result in the low effectiveness of blended learning models. Despite these challenges, hybrid models remain one of the most promising approaches for scaling up English language education in under-resourced contexts.

2.4. Challenges in Teaching English to Non-English Majors in Developing Contexts

Pham (2021) points out that teaching English to non-English majors often receives less institutional support than major programs. In Vietnam, these students typically have lower motivation, larger class sizes, and fewer English contact hours. The disparity in instructional attention and expectations leads to a persistent achievement gap. Hsu and Ching (2020) highlight that non-English majors also struggle with content relevance, as the materials and curriculum are not always aligned with their academic or professional interests. Moreover, when technological tools are used without contextual adaptation, they may not address students' specific learning difficulties or backgrounds, particularly in areas with minimal prior exposure to English.

2.5 Theoretical Framework

This study is guided by two complementary theoretical frameworks:

2.5.1 Technological Pedagogical Content Knowledge (TPACK)

This model focuses on the intersection of technology, pedagogy, and content knowledge, highlighting that effective technology integration requires understanding their interactions (Mishra & Koehler, 2006). It serves as a lens for analyzing how teachers at local universities design and implement English instruction using digital tools.

2.5.2 Diffusion of Innovations Theory (Rogers, 2003)

This theory explains how innovations, like educational technologies, are adopted or resisted within a social system. The theory is used to examine how individual, institutional, and cultural factors influence the acceptance and implementation of technology in English teaching at under-resourced universities. Together, these frameworks offer a comprehensive view of the pedagogical practices and systemic conditions shaping technology adoption in language education.

3. Methodology

This qualitative multiple-case study was conducted at three under-resourced regional universities in northern Vietnam: *Tân Trào University (Tuyên Quang Province)*, *Hùng Vương University (Phú Thọ Province)*, ***and*** *Hạ Long University (Quảng Ninh Province)*. These institutions were selected based on their geographical representativeness, diverse student populations, and their shared constraints regarding technological infrastructure and English education resources.

3.1 Research Design

A convergent parallel mixed-methods design was adopted, where quantitative and qualitative data were collected simultaneously, analyzed separately, and then triangulated for interpretation. *The quantitative component* involved a structured survey distributed to students to quantify their experiences and perceptions regarding technology use in English learning. The *qualitative component* consisted of semi-structured interviews and classroom observations with both students and lecturers to provide deeper insights into attitudes, behaviors, and contextual constraints. This design was chosen to capture both the breadth (via quantitative data) and depth (via qualitative data) of the teaching and learning context, particularly considering the complexity of integrating technology into disadvantaged educational environments.

3.2 Participants

The study involved three key stakeholder groups:
1. Students (n = 250): Non-English majors enrolled in general English courses.
2. Lecturers (n = 30): English instructors with experience in using digital tools in teaching.
3. Institutional representatives (n = 10): Including faculty leaders and ICT support staff.

Participants were recruited through purposive sampling, ensuring representation across departments and genders. All participants voluntarily consented to join the study.

3.3. Data Collection

Data was collected through:
1. Online surveys (with both closed and open-ended questions) distributed to students and lecturers.
2. Semi-structured interviews with 15 lecturers and six institutional representatives.
3. Focus group discussions with students (six groups across three universities).
4. Document analysis, including ICT policy papers, syllabi, and internal reports on technology use.

All instruments were piloted before official data collection to ensure clarity and contextual relevance.

3.4 Data Analysis

Survey responses were analyzed descriptively, with open-ended responses coded thematically using NVivo. Interview and focus group transcripts were processed through an inductive coding approach, guided by TPACK and Diffusion of Innovation frameworks. Triangulation across data sources ensured the reliability and validity of findings.

4. Findings and Discussion

This section synthesizes findings from surveys, interviews, and classroom observations, organized around five key themes aligned with the research questions and literature. The results reveal the complex dynamics of technology-

enhanced English language teaching in under-resourced Vietnamese universities, especially for non-English majors. The data underscore the interplay between technological access, socio-economic constraints, institutional preparedness, and student engagement. While progress has been made, significant challenges persist in ensuring equitable access, fostering pedagogical innovation, and securing sustained institutional commitment.

4.1 Students' Perspectives: Access, Usage, and Challenges

4.1.1 Levels of Technology Use Among Students

Survey results from 250 non-English major students across the three universities indicate that technology is widely used as a support tool in English learning. The most commonly utilized platforms include *Google Classroom* (used by 71% of respondents), *Zalo* (64%), and *Zoom* (58%)

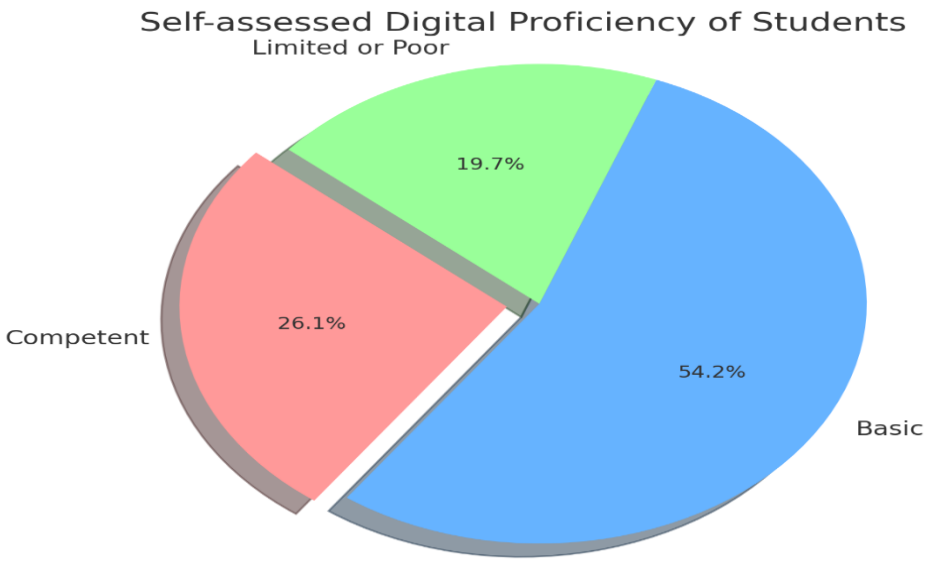

Figure 1: Pie Chart 1- Preferred Platforms/Tools Used by Students

Source: Research team, 2025

This chart shows a clear preference for familiar and accessible platforms, particularly mobile-friendly tools like Zalo and YouTube. Many students noted that they relied on these platforms not only for classroom interaction but also for self-directed learning.

1. Benefits of Technology in English Learning

Students reported several perceived benefits: ***Flexibility***: Learning at one's own pace and revisiting recorded lectures; ***Multimodal access***: Listening and speaking skills improved via multimedia tools; ***Motivation*****:** Gamified tools like *Wordwall* or *Quizizz* increased engagement. "*I can listen to English while cooking or commuting, which saves time and helps me improve.*" (Student, University B).

2. Challenges and Digital Literacy Gaps
Despite these advantages, 42% of students reported **unstable internet access**, especially in rural areas. In addition, 36% admitted struggling with basic tech skills (e.g., attaching files, navigating LMS). Many relied heavily on **Google Translate**, often at the expense of deep language comprehension. *"I use apps to translate whole paragraphs, but then I don't learn the grammar."* (Student, University C).

Students' level of *learning autonomy* was mixed. While some explored YouTube or mobile apps for extra practice, others remained passive without teaching direction.

4.2 Teachers' Practices: Digital Adoption and Constraints

4.2.1 Frequency and Types of Digital Tools Used

The surveyed cohort of 30 English lecturers across the three institutions exhibited varied levels of technology integration in their teaching practices. While all participants acknowledged the necessity of digital tools during and after the COVID-19 pandemic, their actual usage patterns diverged considerably.

Table 1: Teachers' Use of Digital Tools and Perceived Effectiveness

Digital Tool	Frequency of Use (% of Teachers)	Perceived Effectiveness (Scale 1–5)
PowerPoint	100%	4.6
Zoom	87%	4.3
Google Meet	60%	4.0
Quizizz / Kahoot	53%	4.2
LMS (Moodle, etc.)	43%	3.9
Google Docs / Slides	38%	4.1
Wordwall	30%	4.4

Source: Authors' field survey conducted at three Vietnamese universities (2024)

PowerPoint remains the dominant instructional tool due to its familiarity and offline accessibility. More interactive tools like *Quizizz*, *Wordwall*, *and Google Docs* were employed selectively by digitally confident teachers. The relatively low usage of institutional LMS platforms reflects both usability concerns and limited training opportunities.

4.2.2 Pedagogical Innovation and Hesitancy

Despite infrastructural limitations, a small subset of lecturers demonstrated innovative practices such as:
1. Flipped classrooms: Assigning pre-class videos or reading followed by in-class problem-solving.
2. Gamified learning: Integrating tools like Kahoot or Wordwall to boost learner motivation.
3. Blended learning models: Combining face-to-face and online sessions to optimize flexibility. *"I post discussion prompts on Google Classroom before class to let students reflect at home. This helps them participate more actively later."* (Lecturer, University A)

However, such innovations remain limited to a minority. Many instructors expressed *reluctance* to adopt unfamiliar tools, citing concerns over increased preparation time, unstable internet connections at school, and lack of institutional support or peer mentoring. Several also noted a mismatch between student digital habits and critical thinking skills, highlighting that while students were active on mobile apps, their academic engagement remained superficial.

4.2.3 Infrastructure and Policy Support Issues

Technological adoption is further constrained by systemic challenges. Although most universities possess basic facilities (e.g., projectors, internet), these are often outdated, insufficient in number, or non-functional in remote campuses. Institutional digitalization policies were found to be ***fragmented or absent***. Few universities had formal frameworks for: **c**ontinuous professional development in digital pedagogy; monitoring and evaluation (M&E) of technology use; providing incentives or recognition for digital teaching innovation. *"We teach large classes in poorly equipped rooms. No LMS, no digital board. The burden is on teachers to adapt."* (Lecturer, University C)**.** In sum, while several teachers have adapted to technological tools in their English instruction, this adoption *is* ***uneven and unsustainable*** without structured policy, adequate infrastructure, and ongoing digital training.

4.3 Institutional Insights: Opportunities and Gaps in Digital Infrastructure

4.3.1 Uneven Technological Ecosystems across Institutions

Across the three participating institutions, the digital infrastructure supporting English teaching remains markedly inconsistent. While some campuses have made strides in adopting basic technological resources, such as Wi-Fi routers, projectors, and computer labs, others lag far behind. Notably, only one university reported having a fully functional Learning Management System (LMS) deployed for all faculties, and even this was largely under-utilized. This institutional disparity is mirrored in staff feedback, with 67% of lecturers surveyed reporting *insufficient digital access* in classrooms. Moreover, *23% noted that administrative policies around digitalization were vague or nonexistent*, leading to individual improvisation rather than system-wide innovation.

4.3.2 Budget Constraints and Investment Priorities

Limited financial capacity significantly affects universities' ability to modernize their teaching environments. Interviews with department heads revealed that ***ICT funding often competes with more traditional budget lines***, such as facility maintenance or exam printing. As a result, technology investments are *ad hoc* and project-based, lacking long-term sustainability planning. *"Most of our budget goes into repairing broken facilities or buying chalk, not upgrading projectors or internet."* (Head of Faculty, University B)**.** Despite this, there is evidence of **incremental progress**. For instance, two universities have partnered with provincial education departments to pilot blended learning modules, with support from donors or international development programs. These initiatives, however, are not yet institutionalized into policy or curriculum.

4.3.3 Platform Use and Tool Preferences: A Student Perspective

To gain insight into students' digital engagement, a survey of 250 non-English majors was conducted. When asked about preferred platforms/tools for English learning, responses were as follows:

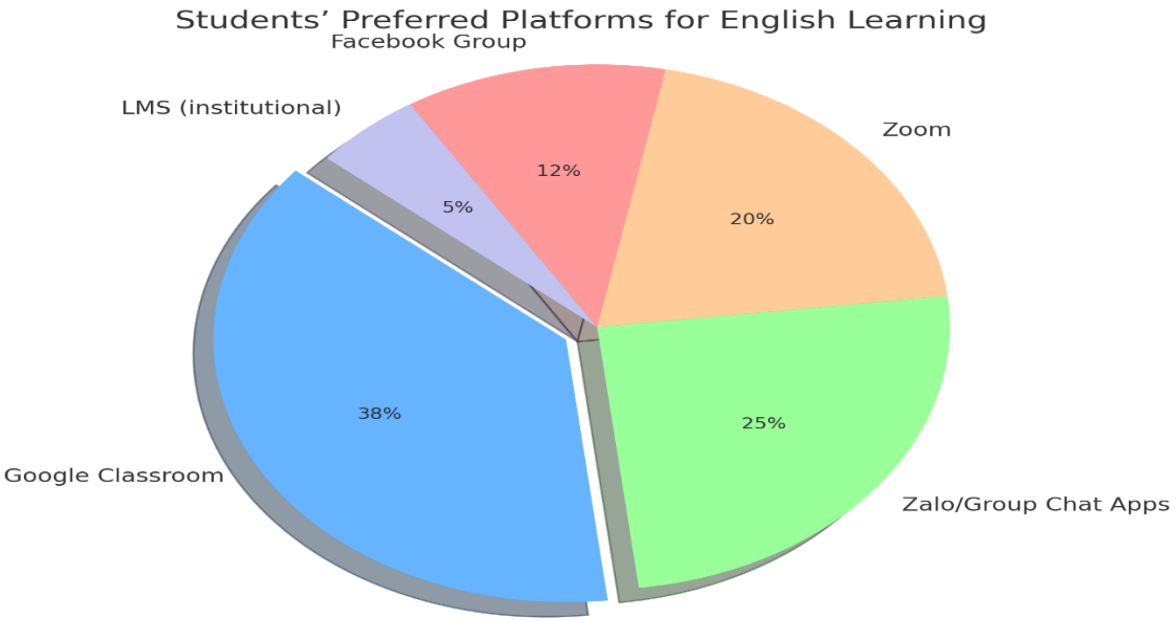

Figure 2: Pie Chart 2- Students' Preferred Platforms for English Learning

Source: Authors' survey data, 2025 (n = 250)

This distribution suggests that students prefer ***simple, mobile-friendly tools*** over formal LMSs. Zalo, Google Classroom, and Zoom dominate owing to their accessibility and user familiarity. Interestingly, the institutional LMS ranked lowest, indicating a potential mismatch between institutional investment and actual student behavior.

4.3.4 The Absence of a Strategic Digital Vision

A critical institutional gap lies in the *absence of a comprehensive digital transformation strategy* for English education. Most digital initiatives appear reactive (e.g., due to COVID-19) rather than proactive. Only one university had a formal digital teaching plan aligned with national strategies such as the ***National Foreign Language Project 2020*** or ***Conclusion 91 on Digital Transformation***.

"We want to integrate AI and new apps, but there is no roadmap, no training, and no rewards for teachers who try." (Vice Rector, University C)**.** Without a coherent vision and coordinated policy, efforts remain fragmented and dependent on individual champions. For long-term sustainability, local universities must integrate digitalization into their strategic frameworks, budget planning, and academic quality assurance.

4.4 Stakeholder Synergies for Sustainable Technology Integration

The effective integration of educational technology in under-resourced Vietnamese universities requires active and coordinated collaboration among key stakeholders, including universities, teachers, students, and external partners such as local governments and technology providers. Our data and interviews reveal that fragmented initiatives, while well-intentioned, often fail to sustain long-term impact due to a lack of shared vision and systemic support.

4.4.1 Universities as Institutional Drivers

Universities play a critical role in setting the digital transformation agenda. However, institutional inertia, budgetary constraints, and limited digital infrastructure remain major hurdles. Among the surveyed universities, only one had a dedicated budget line for learning technology, while others relied on temporary projects or external donations. To drive sustainable change, universities need to:

1. Formulate clear digital strategies aligned with national policies such as the *National Foreign Language Project* (2020) and *Decision No. 131/QĐ-TTg* (2021) on digital transformation.
2. Build internal capacity by training technical support staff and encouraging digital innovation through internal grants and cross-departmental collaboration.

4.4.2 Teachers as Pedagogical Innovators

Teachers are frontline actors who mediate technology and pedagogy. However, the survey revealed uneven digital literacy among faculty, with many expressing concerns about time investment and a lack of pedagogical guidance. For example, only 42% of lecturers reported receiving training on how to use online platforms effectively. Empowering teachers requires:

1. Continuous professional development focused on both technical skills and digital pedagogy.
2. Recognition and incentives for teachers who pioneer blended and online teaching innovations.

4.4.3 Students as Active Co-Constructors

Students are not passive recipients but active agents in digital learning. As evident in Section 4.3, students are already leveraging tools like Google Classroom and Zalo beyond what is institutionally mandated. However, disparities in access to devices and stable internet, particularly among rural students, remain a major concern. Institutions must:

1. Invest in campus-wide Wi-Fi access and subsidized internet packages.
2. Offer orientation programs to develop students' digital competence and autonomous learning strategies.

4.4.4 Government and EdTech Providers as Systemic Enablers

National policies provide a guiding framework, yet many universities cannot translate policy into action. Partnerships with EdTech providers (e.g., Zoom, Google Workspace) can offer training, technical support, and tailored solutions for Vietnamese higher education. Additionally, local government support—through funding, infrastructure, and digital literacy campaigns—is vital, especially for universities outside major urban centers.

Therefore, stakeholder synergy is not optional but essential for meaningful and sustainable integration of educational technology. Without a coordinated, multi-level approach, isolated interventions risk being short-lived and superficial. Universities must take the lead, but without empowered teachers, prepared students, and supportive ecosystems, systemic transformation will remain elusive.

5. Discussion

The findings presented in this study reinforce the complex and context-dependent nature of technology integration in English language education for non-English majors at local Vietnamese universities. Drawing on a competency-based education (CBE) lens and digital inclusion frameworks, several key themes emerge.

5.1 Technology as a Mediator of Competency-Oriented English Learning

This study confirms that technology plays a pivotal role in mediating core competencies, such as communication, collaboration, and self-directed learning, among non-English major students. The frequent use of platforms such as Google Classroom and Zalo (see Pie Chart 1) demonstrates students' adaptability in leveraging familiar tools to enhance learning outcomes, even in the absence of institutional mandates or structured guidance. These findings resonate with the constructivist view of digital learning (Vygotsky, 1978), where learners use tools within their zone of proximal development. As in Nguyen and Habók (2021), students in under-resourced contexts exhibit high levels of digital improvisation but require structured scaffolding to maximize impact. Thus, technology can bridge gaps in curriculum delivery, but only when embedded within coherent, learner-centered pedagogical design.

5.2 Institutional Gaps and the "Pedagogical Middle Ground"

While most institutions are aware of digital transformation imperatives, the lack of institutional readiness, seen in funding gaps, limited LMS use, and low faculty training rates, highlights the mismatch between policy ambition and on-the-ground implementation. This aligns with findings from Huynh and Tran (2022), who noted that digital reforms in Vietnamese higher education often remain superficial due to weak internal capacity. What is needed is a "pedagogical middle ground", where both technological and human factors are balanced.

Teachers need more than technical know-how; they need pedagogical frameworks for blended learning aligned with Common European Framework of Reference for Languages (CEFR)-oriented outcomes. This is particularly critical in competency-based models, where technology must not only deliver content but also assess and support individual learning trajectories.

5.3 Rethinking Equity in Technology-Enhanced English Education

The results call for a reconceptualization of equity in digital education, not merely as access to devices, but as equitable participation in meaningful learning. Rural students' reports of limited connectivity and device sharing (Section 4.3) underscore how digital learning risks exacerbating existing inequalities if left

unaddressed. This aligns with Selwyn's (2016) critique that "ed-tech optimism" often overlooks socio-material realities in Global South contexts.

Therefore, digital policy must shift from "technology provision" to "learning empowerment," with targeted support for students who face compound disadvantages. Competency-based education, when enabled by inclusive digital ecosystems, offers a promising pathway to address these challenges holistically.
In sum, while students and teachers show signs of adaptation and innovation, technology remains under-utilized in advancing competency-based English language education at local universities. The path forward requires more than tool adoption demands systemic reform grounded in pedagogical vision, institutional support, and an unwavering focus on equity.

6. Implications

This study provides several practical and policy implications for stakeholders engaged in improving English language education for non-English majors at local Vietnamese universities. These implications are situated within a competency-based education (CBE) framework and emphasize sustainable technology integration.

6.1 For Universities: Institutional Reform and Digital Innovation

6.1.1 Curriculum Re-engineering

Universities should revise English curricula to integrate digital competencies and hybrid instructional models. Modular design with a focus on practical communication skills, digital literacy, and learner autonomy is strongly recommended. The CEFR-aligned benchmarks should guide both formative and summative assessments.

6.1.2 Faculty Development

Institutions must invest in sustained teacher training programs focusing on blended learning pedagogy, not just tool usage. Inter-university collaboration (e.g., joint workshops, digital communities of practice) can support knowledge sharing among under-resourced institutions.

6.1.3 Infrastructure Investment

Universities need to prioritize investment in campus-wide Learning Management Systems (LMS), digital content libraries, and offline-compatible learning tools for students in low-bandwidth areas.

6.2 For Educators: Pedagogical Renewal and Student-Centered Use of Technology

6.2.1 Competency-Based Pedagogy

Teachers should shift from content transmission to developing students' communicative competence, collaboration, and critical thinking. Technology should be used as a means to scaffold and personalize learning experiences.

6.2.2 Blended Delivery and Feedback Loops
Asynchronous video lectures, collaborative tasks on platforms like Google Docs, and formative assessment through apps (e.g., Kahoot, Quizziz) can enhance learner engagement and autonomy.

6.2.3 Equity-Oriented Teaching
Teachers must be trained to recognize and address the digital divide within their classrooms. This includes using low-tech alternatives, offering printed support materials, and being flexible with deadlines for students with unstable internet access.

6.3 For Policymakers and Educational Authorities
6.3.1 Targeted Support Policies
The Ministry of Education and Training (MOET) should provide funding packages and policy guidance for disadvantaged institutions in mountainous and rural provinces. A digital equity audit could be used to allocate resources more effectively.

6.3.2 Monitoring and Evaluation
Digital transformation should be tracked through competency-based metrics, such as learner engagement, task completion rates, and English proficiency improvements (e.g., CEFR levels), rather than infrastructure expansion alone.

6.3.3 *Public-Private Partnerships (PPP)*
The government should encourage collaborations between universities and tech providers to develop context-sensitive edtech solutions, including mobile-first platforms for offline use. In light of the findings, competency-based, technology-supported English instruction in local Vietnamese universities requires systemic efforts across curriculum reform, professional development, infrastructure provision, and inclusive policy design. Without aligned and collaborative action, digital transformation may remain fragmented and inequitable.

7. Conclusion
This study has explored the role of technology in supporting English language teaching and learning among non-English majors at local, under-resourced Vietnamese universities, within the broader context of socio-economic and technological constraints. Drawing on survey data from students, teachers, and employers, the findings underscore the persistent challenges of digital inequality, outdated pedagogical practices, and limited institutional capacity. Despite these barriers, the study identifies notable opportunities for innovation through blended learning, mobile-assisted language learning, and competency-based instruction aligned with CEFR.

The analysis of perceptions and usage patterns suggests that technology, when appropriately integrated, can enhance learner autonomy, engagement, and real-world language use, particularly for students in disadvantaged regions. By categorizing stakeholders into universities, educators, and policymakers, the study provides a nuanced framework for coordinated action. The implications highlight the importance of institutional reform, inclusive teacher training, and

targeted digital infrastructure investments. These are not merely technological solutions but systemic shifts towards equity and sustainability in English education.

In conclusion, the transformation of English language education in local Vietnamese universities must move beyond *ad hoc* digital adoption towards a strategic, competency-oriented model. Future research should explore longitudinal impacts of blended interventions and examine student learning outcomes in diverse socio-regional settings. Such efforts are critical to ensuring that no learner is left behind in Vietnam's digital education landscape.

8. References

British Council. (2024). *Ten trends and innovations in English language teaching*. Retrieved from https://www.britishcouncil.org/voices-magazine/ten-trends-and-innovations-english-language-teaching-2024

Central Committee of the Communist Party of Vietnam. (2024). *Conclusion No. 91-KL/TW on continuing the implementation of Resolution 29-NQ/TW*. Hanoi.

Cheng, H. (2021). The role of digital tools in English language learning: A case study of EFL students. *Journal of Educational Technology, 39*(2), 75–87. https://doi.org/10.1016/j.jedtech.2020.10.001

Dao, T., & Nguyen, P. (2020). Technology integration in urban Vietnamese universities: Opportunities and challenges. *Journal of Language and Education, 15*(1), 34–45.

Farrell, T. S. C. (2016). *The practice of English language teaching: A reflective approach*. TESOL Press. https://doi.org/10.1002/tesq.270

Golonka, E. M., Bowles, A. R., Frank, V. M., Richardson, D. L., & Freynik, S. (2014). Technologies for foreign language learning: A review of technology types and their effectiveness. *Computer Assisted Language Learning, 27*(1), 70–105. https://doi.org/10.1080/09588221.2012.700315

Hsu, Y. C., & Ching, Y. H. (2020). Challenges for teaching English in under-resourced contexts: A mixed-method study. *Asia-Pacific Journal of Education, 40*(4), 489–504. https://doi.org/10.1080/02188791.2020.1724525

Huynh, C. M., & Tran, H. N. (2022). Financial development, income inequality and institutional quality: A multi-dimensional analysis. *MPRA Paper No. 112829*. Retrieved from https://ideas.repec.org/p/pra/mprapa/112829.htm

Johnson, M., & Brown, S. (2022). The impact of virtual classrooms on language learning: Insights from a global perspective. *TESOL Quarterly, 56*(3), 500–515. https://doi.org/10.1002/tesq.577

Kelly, T., Unwin, D., & Finucane, F. (2020). Low-carbohydrate diets in the management of obesity and type 2 diabetes: A review from clinicians using the approach in practice. *International Journal of Environmental Research and Public Health, 17*(7), 2557. https://doi.org/10.3390/ijerph17072557

Kigotho, W. (2021). Study highlights concern about publishing practices. *University World News*. Retrieved from https://www.universityworldnews.com/post.php?story=2021041021203658

Lai, C., Hu, X., & Lyu, B. (2017). Understanding the nature of learners' out-of-class language learning experience with technology. *Computer Assisted Language Learning, 31*(1–2), 114–143. https://doi.org/10.1080/09588221.2017.1391293

Le, H. T., & Pham, Q. T. (2023). Digital inequality and language learning in Vietnamese universities: A rural-urban comparison. *International Journal of Educational Development, 94,* 102658. https://doi.org/10.1016/j.ijedudev.2022.102658

Lee, H., & Lee, J. H. (2024). The effects of AI-guided individualized language learning: A meta-analysis. *Language Learning & Technology, 28*(2), 134–162. https://doi.org/10.64152/10125/73575

Ministry of Education and Training (MOET). (2018). *General education program: English language curriculum*. Hanoi: Education Publishing House.

Ministry of Education and Training (MOET). (2023). *Decision No. 1465/QD-TTg: National Foreign Language Project 2025–2030*. Hanoi: Government of Vietnam.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record, 108*(6), 1017–1054. https://doi.org/10.1177/016146810610800602

Nguyen, L., & Tran, Q. (2022). Blended learning in rural universities: A case study in Vietnam. *Journal of Educational Practices, 30*(1), 59–73.

Nguyen, T. H., & Dao, M. P. (2022). Blended learning in Vietnamese universities: Benefits and implementation challenges. *Asian EFL Journal, 24*(5), 63–78.

Nguyễn, L. A. T., & Habók, A. (2021). Digital literacy of EFL students: An empirical study in Vietnamese universities. *Libri, 72*(1), 53–66. https://doi.org/10.1515/libri-2020-016

Pham, T. L. (2021). Non-English majors and the marginalization of English education: A case study from Vietnam. *Journal of Language Teaching and Research, 12*(2), 229–236. https://doi.org/10.17507/jltr.1202.01

Prime Minister. (2008, September 30). Teaching and learning foreign languages in the national education system, period 2008–2020 (Decision No. 1400/QĐ-TTg). Retrieved from https://thuvienphapluat.vn/van-ban/EN/Giao-duc/1400-QD-TTg/83815/tieng-anh.aspx

Prime Minister. (2022, January 25). Enhancing application of information technology and digital transformation in education and training during 2022–2025, with orientation to 2030 (Decision No. 131/QĐ-TTg). Retrieved from https://vanban.chinhphu.vn/?classid=0&docid=205236&pageid=27160

Rahman, M. A., Stratópoulos, L., Moser-Reischl, A., & Zölch, T. (2019). Trees for cooling urban heat islands: A meta-analysis. *Building and Environment, 170,* 106606. https://doi.org/10.1016/j.buildenv.2019.106606

Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). Free Press.

Selwyn, N. (2016). *Is technology good for education?* Cambridge, UK: Polity Press. ISBN-13: 978-0745661910. Retrieved from https://research.monash.edu/en/publications/is-technology-good-for-education

Sharma, R., Ahmed, A., & Kim, H. (2021). Online learning platforms in ESL education: Opportunities and limitations. *TESOL Journal, 12*(3), e00478. https://doi.org/10.1002/tesj.478

Tran, D. (2021). A review of blended learning in Vietnamese universities: Applications and implications. *Journal of Higher Education Studies, 13*(2), 121–133. https://doi.org/10.5430/jhes.v13n2p121

Unwin, D., Khalid, A. A., Unwin, J., Crocombe, D., Delon, C., Martyn, K., ... & Ray, S. (2020). Insights from a general practice service evaluation supporting a lower carbohydrate diet in patients with type 2 diabetes mellitus and prediabetes: A secondary analysis of routine clinic data including HbA1c, weight and prescribing over 6 years. *BMJ Nutrition, Prevention & Health.* https://doi.org/10.1136/bmjnph-2020-000072

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes.* Cambridge, MA: Harvard University Press. ISBN-10: 0674576284. Retrieved from https://www.worldcat.org/title/mind-in-society-the-development-of-higher-psychological-processes/oclc/3517053

Wang, Y. (2023a). Blended learning in EFL classrooms: A systematic review. *TESOL Journal, 14*(1), 1–15. https://doi.org/10.1002/tesj.579

Wang, Y. (2023b). The impact of mobile-assisted language learning on student engagement: A systematic review. *Computer Assisted Language Learning, 36*(4), 389–407. https://doi.org/10.1080/09588221.2023.1946827