

NEEDS ANALYSIS OF ENGLISH PRE-SERVICE TEACHERS TOWARD THE ICT-IN-ELT CURRICULUM: A MIXED-METHODS STUDY IN NORTHERN VIETNAM

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ABSTRACT

The rapid development of information and communication technology (ICT) has transformed English language teaching; however, teacher education programs in Vietnam often struggle to prepare pre-service teachers adequately. This study investigates the needs of English pre-service teachers regarding the curriculum for the course Application of ICT in English Language Teaching. Using a mixed-methods design, 85 English pre-service teachers at a public university in northern Vietnam were surveyed and ten of them attended in-depth interviews. Findings reveal that ICT use is highly prevalent and perceived as essential for learning and future teaching careers. Students express strong needs for AI-powered tools for rapid slide design and lesson plan creation, instructional videos, self-learning management apps, and interactive platforms for warm-up and post-activities to energize classrooms. While students appreciate software support for ELT, they emphasize the need for creativity and continuous updates. Crucially, students want the new curriculum to integrate applications into lesson delivery steps, as the current curriculum focuses narrowly on technical operations without connecting to pedagogical steps. Emerging challenges include limited laptop access, costs of premium applications, unstable internet in mountainous areas, restrictions on mobile phone use in classrooms, and insufficient prior training in methodology courses, which hinders effective lesson design. These findings highlight the urgent need for an updated curriculum that integrates ICT tools into pedagogical practice, provides cost-effective and offline-friendly resources, and offers hands-on lesson planning training aligned with methodology courses.

Keywords: ICT in ELT, needs analysis for ICT, pre-service teachers' needs

INTRODUCTION

Information and communication technology (ICT) has emerged as an indispensable cornerstone of modern English Language Teaching (ELT). The integration of technology in language classrooms not only facilitates interactive and immersive learning experiences but also demands a high level of digital literacy from educators (Peeraer & Van Petegem, 2011). In the context of Vietnam, where the Ministry of Education and Training has championed educational modernization and digital transformation, the competence of pre-service English teachers becomes highly critical (Vo, 2019). Teacher training institutions are tasked with equipping future teachers with both theoretical knowledge and practical skills to navigate an increasingly digitized educational ecosystem (Vo et al., 2020).

Despite these institutional imperatives, traditional teacher education curricula in Vietnam often experience challenges in keeping pace with the rapid technological advancements in the field (Vo, 2019; Vo et al., 2020). Pre-service teachers frequently report feeling underprepared to effectively leverage modern ICT tools during their teaching practicum and subsequent professional careers (Dinh, 2024; Du et al., 2025). To address this gap, this study investigates the specific curricular needs of English pre-service teachers regarding the core undergraduate course, "Application of ICT in English Language Teaching," at Hung Vuong University - a prominent public university in Phu Tho Province, northern Vietnam. By understanding students' current perceptions, preferences, and encountered barriers, this research aims to provide actionable insights for redesigning a highly responsive and pedagogically-grounded ICT curriculum.

RESEARCH QUESTIONS

The study addresses the following three Research Questions (RQs):

RQ1: What are the specific technological preferences and needs of Vietnamese English pre-service teachers across different academic cohorts (K21, K22, and K23) regarding the "Application of ICT in English Language Teaching" course?

RQ2: How do these pre-service teachers expect digital tools to be integrated into sequential lesson delivery steps within the course curriculum?

RQ3: What environmental, financial, and pedagogical barriers do English pre-service teachers encounter when accessing and utilizing these tools?

METHODOLOGY

Participants

85 pre-service EFL teachers majoring in English Language Teacher Education at Hung Vuong University, Phu Tho Province, Vietnam.

Survey Questionnaire	N = 85	Sophomores (K23)	Juniors (K22)	Seniors (K21)
In-depth Interviews	N = 10	27 (31.8%)	20 (23.5%)	38 (44.7%)

Design

Explanatory sequential mixed-methods design (Creswell & Creswell, 2017), organized into two sequential phases:

Questionnaire (Quantitative Phase N = 85)	(1) Cohort-specific technological needs & preferences (2) Perceived importance of modern ICT tools in ELT (3) Environmental and financial barriers (mountainous)
Interview (Qualitative Phase N = 10)	(1) Expectations for pedagogical tool integration (2) Institutional obstacles (school phone bans) (3) Training gaps & synergy with methodology courses

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KEY FINDINGS

Technological Needs and Curricular Integration Expectations

The first research question sought to identify the specific technological needs of English pre-service teachers at Hung Vuong University and their expectations regarding how these tools should be integrated into the "Application of ICT in English Language Teaching" curriculum. The quantitative and qualitative findings reveal that while ICT use is highly prevalent and perceived as essential for learning and future teaching careers, students' needs are diverse and highly dependent on their academic year.

1. Specific Technological Needs Across Cohorts

The survey of 85 pre-service teachers and interviews with 10 participants show distinct technological preferences across the three academic cohorts:

- K23 (2nd-Year, N=27): Demand self-learning management apps to coordinate autonomous study and organize language resources.
- K22 (3rd-Year, N=20): Prioritize instructional videos and interactive platforms to deliver dynamic activities during peer-teaching.
- K21 (4th-Year, N=38): Require AI-powered tools (for rapid lesson planning/slide design) to reduce preparation workloads during high school practicums.

2. Expectations for Pedagogical Integration (Moving Beyond Technical Operations)

Crucially, participants across all cohorts expect a fundamental shift in how the curriculum is delivered. The findings indicate that the current curriculum focuses too narrowly on technical operations (i.e., teaching students how to run software or use basic application functions). Instead, pre-service teachers expect the new curriculum to integrate applications directly into lesson delivery steps. Students do not want to learn digital tools in isolation; they demand to know where, when, and how to apply these tools within a standard lesson plan (such as during warm-ups, presentations, practices, or assessments) to achieve specific language learning objectives.

Table 1: Student Expectations for Integrating ICT into Lesson Delivery Steps

Lesson Delivery Phase	Traditional Technical Focus (Software Operations)	Expected Pedagogical Integration (Teaching Practice)
Warm-up / Lead-in	Creating a basic slide or registering a software account.	Deploying interactive, gamified platforms to energize classrooms and activate prior knowledge.
Presentation / Explanation	Manipulating presentation software settings.	Utilizing AI-powered tools for rapid slide design and embedding high-quality instructional videos.
Practice / Production	Generating simple offline worksheets.	Leveraging collaborative digital boards and self-learning management apps for student-centered tasks.
Consolidation / Assessment	Recording grades manually on a spreadsheet.	Implementing digital assessment platforms for rapid post-activities and immediate student feedback.

Curricular Integration Expectations

The second research question explored pre-service teachers' expectations regarding how ICT tools should be integrated into the course. Rather than navigating separate software packages, students expect the curriculum to model technology integration within active pedagogical contexts. Specifically, they expect the ICT-in-ELT curriculum to align directly with sequential lesson delivery phases, as shown in Table 1 above. In interviews, students noted that experiencing tech-integration as an active pedagogical tool during their university coursework is crucial for bridging the gap between theory and practical classroom teaching.

Environmental, Financial, and Pedagogical Barriers

The third research question aimed to identify the contextual, financial, and pedagogical barriers that English pre-service teachers face when accessing and integrating technology. The mixed-methods data paint a complex picture of the multifaceted constraints experienced by students at Hung Vuong University.

1. Environmental and Financial Barriers

Students face severe practical limitations that hinder their ability to utilize ICT effectively:

- **Limited Laptop Access:** A significant portion of the surveyed students do not own personal laptops or only have access to outdated devices, making it difficult to run modern pedagogical software smoothly.
- **Costs of Premium Applications:** Many advanced features of popular ELT tools (such as customized AI lesson plan templates or extensive quiz databases) require paid subscriptions. For provincial university students in Phu Tho, these premium application costs are highly prohibitive.
- **Unstable Internet in Mountainous Areas:** Since Hung Vuong University recruits many students from mountainous and rural districts of Phu Tho Province, participants highlighted that weak and unstable internet connectivity at home severely limits their ability to prepare and practice technology-enhanced lessons.

2. Pedagogical Barriers

Beyond physical and financial access, pre-service teachers encounter pedagogical and regulatory obstacles:

- **Restrictions on Mobile Phone Use:** During their teaching practicums at local high schools, students report that school policies restricting mobile phone use in classrooms make it impossible to execute real-time, interactive mobile-based activities (such as live polls or digital quizzes) with high school learners.
- **Insufficient Prior Training in Methodology Courses:** Pre-service teachers point out a lack of synergy within their program. Because core English teaching methodology courses do not adequately address technology integration, students lack the foundational lesson planning skills required to connect ICT tools to teaching objectives, leading to ineffective lesson designs.

RECOMMENDATIONS AND CONCLUSION

To modernize the ICT-in-ELT curriculum, three key reforms are proposed: first, embed TPACK-based pedagogical scaffolding by structuring syllabus units around sequential lesson delivery phases (Warm-up, Presentation, Practice, Consolidation); second, prioritize cost-effective, open-source, and offline-friendly resources (such as paper-based QR polling cards) to bypass local financial and internet connectivity barriers; and third, integrate hands-on lesson planning aligned with methodology courses through collaborative workshops to build practical teaching skills for high school internships.

In conclusion, modernizing EFL teacher education is an urgent task that must shift the curricular focus from isolated technical operations to practical pedagogical integration. Although pre-service teachers display high digital motivation, they require targeted training to connect digital applications directly with classroom learning objectives. By addressing local resource constraints, establishing synergy between courses, and emphasizing hands-on, lesson-integrated practice, teacher training institutions can successfully equip future educators to lead technology-enhanced, learner-centered classrooms.