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Mapping Digital Readiness: English Education Students' Perceptions of ICT Use in Language Learning

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ABSTRACT

Penelitian ini mengkaji persepsi mahasiswa Pendidikan Bahasa Inggris di sebuah universitas swasta di Banten, Indonesia, mengenai penggunaan Teknologi Informasi dan Komunikasi (TIK) dalam pembelajaran bahasa Inggris. Sebagai calon guru yang sekaligus berperan sebagai pengguna TIK dan praktisi pengajaran masa depan, para mahasiswa ini menempati posisi yang sangat penting dalam wacana pedagogi digital. Penelitian ini menggunakan pendekatan kuantitatif deskriptif dengan data yang dikumpulkan dari 60 mahasiswa aktif melalui kuesioner tertutup berskala Likert lima poin. Instrumen penelitian mencakup empat dimensi: persepsi kebermanfaatan, persepsi kemudahan penggunaan, hambatan teknis dan institusional, serta kesiapan pedagogis untuk mengajar di masa depan. Analisis statistik deskriptif menunjukkan bahwa mahasiswa pada umumnya memiliki persepsi positif terhadap penggunaan TIK dalam pembelajaran bahasa. Dimensi persepsi kebermanfaatan mencatat skor rata-rata tertinggi (M = 4,21; SD = 0,52), diikuti oleh kemudahan penggunaan (M = 3,96; SD = 0,61) dan kesiapan pedagogis (M = 3,74; SD = 0,68). Hambatan teknis dan institusional mencatat skor terendah (M = 3,18; SD = 0,74), di mana mahasiswa paling sering melaporkan koneksi internet yang tidak stabil, keterbatasan akses perangkat, dan kurangnya panduan pedagogis sebagai kendala utama. Perlu dicatat bahwa kesiapan pedagogis dinilai berada pada tingkat sedang; hal ini mengindikasikan bahwa pengalaman praktis menggunakan TIK sebagai pembelajar tidak secara otomatis menghasilkan kepercayaan diri untuk merancang dan menerapkan pembelajaran berbasis TIK di masa depan. Temuan ini menegaskan perlunya institusi pendidikan tinggi untuk melangkah lebih jauh dari sekadar penyediaan infrastruktur, serta berinvestasi dalam pelatihan literasi digital yang terstruktur dan berlandaskan prinsip pedagogis bagi para calon guru.

This study investigated how English Education students at a private university in Banten, Indonesia perceive the use of Information and Communication Technology (ICT) in English language learning. As pre-service teachers who simultaneously function as ICT users and future classroom practitioners, these students occupy a uniquely significant position in the discourse on digital pedagogy. A descriptive quantitative approach was employed, with data collected from 60 active students through a closed-ended questionnaire using a five-point Likert scale. The instrument covered four dimensions: perceived usefulness, perceived ease of use, technical and institutional barriers, and pedagogical readiness for future teaching. Descriptive statistical analysis revealed that students generally hold positive perceptions of ICT use in language learning. Perceived usefulness received the highest mean score (M = 4.21, SD = 0.52), followed by ease of use (M = 3.96, SD = 0.61) and pedagogical readiness (M = 3.74, SD = 0.68). Technical and institutional barriers recorded the lowest score (M = 3.18, SD = 0.74), with students most

frequently reporting unstable internet connections, limited device access, and insufficient pedagogical guidance as key obstacles. Notably, pedagogical readiness was rated at only a moderate level, indicating that practical familiarity with ICT as a learner does not automatically translate into confidence for designing and implementing ICT-based instruction in the future. These findings underscore the need for higher education institutions to go beyond providing infrastructure and to invest in structured, pedagogically grounded digital literacy training for pre-service teachers

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INTRODUCTION

The rapid advancement of Information and Communication Technology (ICT) has reshaped nearly every corner of daily life, and education is no exception. Within English as a Foreign Language (EFL) instruction, ICT is no longer a supplementary tool sitting on the sidelines; it has become woven into the very fabric of how learning happens. Today's students have grown up alongside smartphones, learning applications, and online platforms, so it is hardly surprising that their expectations of university instruction have shifted in turn. The classroom once defined by chalkboards and printed textbooks now shares space with screens, internet connections, and a growing array of language-support applications.

This shift raises a question worth examining closely, especially for students enrolled in English Education programs who are themselves preparing to become teachers. They occupy a dual position: not only are they users of ICT in their own learning, but they are also future educators who will eventually decide how such technology gets applied in their own classrooms. Understanding how they currently view, accept, and experience ICT in their studies therefore offers a meaningful starting point for anticipating how they might integrate it once they begin teaching.

Prior research has generally found that students hold favorable views toward ICT in language learning, yet this acceptance is frequently not matched by adequate infrastructure or sound pedagogical understanding. A student may feel genuinely enthusiastic about a particular application or platform while still running into practical roadblocks: unreliable internet connections, limited access to devices, or insufficient guidance from instructors on how to use the technology in a meaningful way. This gap between interest and readiness is the central concern of the present study, particularly in the context of private universities located outside major urban centers, which often operate with fewer facilities than larger institutions in Indonesia's main cities.

This study sets out to map how English Education students perceive the use of ICT in language learning, focusing on four key dimensions: perceived usefulness, perceived ease of use, technical and institutional barriers, and pedagogical readiness as future teachers. More specifically, it seeks to answer three questions: (1) How do students perceive the usefulness and ease of use of ICT in English language learning? (2) What obstacles do students most commonly encounter in accessing and using ICT for learning? (3) How ready are students to integrate ICT into their own future teaching practice?

It is hoped that the findings will offer study programs and institutions a clearer picture of students' actual needs, allowing decisions about facilities and digital literacy training to be better targeted. Beyond its practical value, this study also aims to enrich academic discussion on ICT integration in language education by foregrounding the student perspective — the perspective of those who live through the process directly, rather than relying solely on the viewpoints of instructors or policymakers.

The context of this study is particularly noteworthy. Private universities located outside Indonesia's main urban centers frequently encounter resource constraints that differ markedly from those faced by state-funded institutions or universities in metropolitan areas. Limited budget allocations, varying quality of internet infrastructure, and a smaller pool of professionally trained ICT educators all contribute to an environment where ICT integration, despite being a priority in national educational policy, may struggle to take root in a sustained and meaningful way. Examining how students in such an institution experience and evaluate ICT is therefore not merely an academic exercise; it is a practical contribution to understanding what technology-enhanced language education looks like at the margins of the national system.

Furthermore, the growing emphasis on the integration of 21st-century competencies in teacher education programs across Indonesia makes this inquiry especially timely. National curriculum frameworks and accreditation bodies have increasingly signaled that graduates of English Education programs should be equipped not only with subject matter knowledge and pedagogical skills, but also with the digital literacy competencies demanded by contemporary classrooms. Against this backdrop, understanding the gap between students' existing ICT attitudes and their readiness to translate those attitudes into effective teaching is an essential first step toward redesigning curricula and learning environments that genuinely prepare future educators for the digital age.

ICT in English Language Teaching

ICT is broadly understood as any technology used to manage, store, and disseminate information, encompassing the hardware, software, and networks that make digital communication and access to information possible. Within English language learning, this covers a wide range of tools, from dedicated language-learning applications and online platforms to social media used for communication practice and, increasingly, AI-based learning aids. The presence of ICT opens the door to learning experiences that are more flexible, more interactive, and more easily tailored to individual learner needs — qualities that are difficult to achieve through conventional teaching methods alone.

A number of studies have shown that integrating ICT can boost learning motivation, widen access to authentic English-language materials, and create more opportunities for practice outside scheduled class hours. Even so, the success of such integration depends heavily on how the technology is used, not merely on whether it is available. When ICT is introduced without a sound pedagogical approach behind it, there is a real risk that it becomes little more than a substitute for traditional media, without genuinely transforming the quality of learning — a distinction often drawn in educational technology frameworks between mere substitution and true transformation of the learning process.

Perceived Usefulness and Ease of Use

Two concepts frequently used to understand how users come to accept technology are perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which a person believes that using a particular technology will improve their performance or learning outcomes, while perceived ease of use concerns how readily a person feels they can learn and operate that technology. Together, these two factors shape users' attitudes toward technology and, in turn, their willingness to keep using it over time.

For students in English Education programs, both factors carry particular weight, since they are not simply using ICT as learners — they are simultaneously forming the beliefs and habits they will later carry into their own teaching. When students genuinely experience the benefits and convenience of ICT during their studies, they are more likely to feel confident and open to integrating similar technology into their future classrooms.

Barriers to ICT Use

Alongside its potential benefits, the use of ICT in language learning is often accompanied by various obstacles, both technical and institutional in nature. Technical barriers generally relate to limited internet access, inadequate devices, or other technical disruptions that interfere with the smoothness of the learning process. Institutional barriers, meanwhile, include limited facility support from campuses, insufficient training for both students and lecturers, and ICT that has yet to be systematically embedded into the curriculum and teaching strategy.

These barriers become especially relevant to examine in the context of private universities outside major cities, which often have fewer resources than institutions located in the country's main educational hubs. Understanding the type and intensity of the obstacles students face is an essential first step before institutions can design policies or training that genuinely respond to their needs, rather than simply following broader trends in educational technology.

Pre-Service Teachers' Pedagogical Readiness for ICT

Beyond being technology users, English Education students also occupy the role of future educators who will eventually determine how ICT gets applied in their own teaching. Pedagogical readiness in this sense involves more than technical skill in operating devices or applications; it also requires an understanding of when and how technology can be used meaningfully to support language learning goals. The experiences students accumulate during their studies — whether smooth or fraught with difficulty — will ultimately shape their confidence as technologically literate future teachers.

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Building on this discussion, the present study seeks to address a question that remains rarely explored: how do English Education students at private universities outside major cities perceive ICT as a whole — from its benefits and ease of use, to the obstacles they face, and their readiness to carry these experiences forward into their own future teaching.

Technology Acceptance Model (TAM) as a Theoretical Framework

The theoretical lens guiding this study is the Technology Acceptance Model (TAM), originally proposed by Davis (1989) and widely applied in educational technology research. TAM posits that the actual use of a technology system is determined primarily by a user's behavioral intention, which is itself shaped by two core beliefs: perceived usefulness and perceived ease of use. In language education contexts, TAM has proven particularly useful as a diagnostic framework because it shifts attention from the technology itself to the learner's cognitive and affective responses to it — a distinction that has important implications for how institutions design and deploy digital tools in the classroom.

In the context of the present study, TAM provides the conceptual structure for understanding not only how students evaluate ICT tools in their current learning environment, but also how those evaluations might carry forward into their professional practice as teachers. A student who perceives ICT as genuinely useful and manageable to operate is more likely to develop a sustained commitment to digital learning — and, importantly, to replicate that commitment in the classrooms they eventually lead. This makes TAM especially appropriate as a framework for studies concerned with the professional formation of pre-service teachers rather than with technology adoption among learners alone.

ICT Integration in Indonesian Higher Education: Policy and Practice

At the national policy level, Indonesia has increasingly emphasized the integration of digital technology in its higher education system. The Ministry of Education, Culture, Research, and Technology has outlined the importance of digital literacy as a graduate competency across all study programs, and the development of Kampus Merdeka — a flagship higher education reform initiative — has further encouraged universities to adopt innovative, technology-enriched learning approaches. In practice, however, the translation of these policy directives into institutional reality remains highly uneven, particularly across different types and locations of universities.

Research conducted within the Indonesian context has consistently found that while students and lecturers at various institutions express generally positive attitudes toward technology-enhanced learning, structural barriers remain a persistent challenge. Issues of geographic disparity in internet access, budgetary constraints in smaller institutions, and a shortage of faculty members with strong digital pedagogy training all conspire to limit the depth of ICT integration in practice. English Education programs, with their inherent need for exposure to authentic digital communication materials and platforms, are particularly affected by these gaps — making it all the more important to understand how students within such programs perceive and navigate the digital learning landscape.

TPACK Framework: Integrating Technology, Pedagogy, and Content Knowledge

One of the most widely referenced frameworks in the study of technology integration in education is the Technological Pedagogical Content Knowledge (TPACK) model, developed by Mishra and Koehler (2006) as an extension of Shulman's (1986) foundational concept of Pedagogical Content Knowledge (PCK). TPACK proposes that effective technology integration in teaching requires teachers to develop not one but three interlocking domains of knowledge simultaneously: content knowledge (CK), which concerns deep understanding of the subject matter being taught; pedagogical knowledge (PK), which encompasses knowledge of teaching methods, learning processes, and classroom management; and technological knowledge (TK), which involves proficiency with the technologies relevant to one's teaching context. The model argues that mastery of any one domain alone is insufficient — it is the intersection of all three that produces genuinely technology-enriched, pedagogically sound instruction.

For English Education students, the TPACK framework is particularly instructive. These students are engaged in developing their content knowledge of the English language and its teaching while simultaneously navigating ICT tools in their own learning. Yet as the TPACK model makes clear, technological familiarity alone does not constitute readiness to teach with technology. A student who knows how to use a language-learning application as a learner may still lack the pedagogical knowledge required to design activities using that application in ways that are appropriate for a particular group of learners, aligned with specific language learning objectives, and sensitive to the constraints of a real

classroom environment. This gap — between knowing how to use a tool and knowing how to teach with it — is precisely what the pedagogical readiness dimension in the present study seeks to capture.

Research applying TPACK in EFL teacher education contexts has consistently found that pre-service teachers tend to demonstrate stronger technological knowledge than pedagogical-technological knowledge — that is, they are more confident using digital tools for personal purposes than integrating those tools into purposeful, student-centered language teaching. This asymmetry is particularly pronounced in institutions where technology use is treated primarily as a student service rather than as a professional competency to be developed systematically through the curriculum. The implication for study programs is clear: developing TPACK requires deliberate instructional design, including courses, micro-teaching opportunities, and supervised teaching practice that explicitly foreground the question of how, when, and why to use specific technologies for specific language learning goals.

The SAMR Model: Levels of Technology Integration in Learning

Complementing the TPACK framework, the SAMR model proposed by Puentedura (2006) provides a practical taxonomy for evaluating the depth at which technology is being integrated into classroom learning. The acronym stands for four levels of integration: Substitution, in which technology acts as a direct tool substitute for a conventional activity with no functional change (for example, using a word processor instead of pen and paper to write an essay); Augmentation, in which technology still substitutes for a conventional tool but with some functional improvement (such as using grammar-checking software while writing); Modification, in which technology allows for significant task redesign (for instance, students collaboratively editing a shared document with real-time peer feedback); and Redefinition, the highest level, in which technology enables the creation of new tasks that would be inconceivable without it (such as students producing and publishing a podcast in English for a real international audience).

The SAMR model is relevant to the present study because it helps contextualize the qualitative dimension of students' ICT use: not simply whether they use technology, but at what depth. Research findings in Indonesia and comparable developing contexts frequently suggest that ICT use in language classrooms remains concentrated at the lower two levels — Substitution and Augmentation — where technology replaces or marginally improves conventional activities without genuinely transforming the nature of learning. This observation resonates with the barriers students in the present study reported, particularly the sense that ICT was often used merely to redistribute printed content digitally. The SAMR model thus serves as a conceptual reference point for understanding why positive perceptions of ICT do not automatically translate into transformative learning experiences: transformation requires not only access to technology but also the pedagogical vision and skill to deploy it at the Modification and Redefinition levels.

Digital Literacy and Its Role in Language Education

Digital literacy is a concept that has evolved considerably since Gilster (1997) first introduced it as the ability to understand and use information from diverse digital sources. Contemporary definitions have expanded substantially to encompass not only the technical skills required to navigate digital environments but also a set of higher-order cognitive, communicative, and critical competencies. Researchers such as Eshet-Alkalai (2004) have proposed a multidimensional model of digital literacy that includes photo-visual literacy (the ability to read and interpret visual information), reproduction literacy (the ability to create new meaning from existing digital content), branching literacy (the ability to navigate non-linear digital environments), information literacy (the ability to evaluate and critically assess digital information), and socio-emotional literacy (the ability to communicate and collaborate appropriately in digital spaces).

In the context of English language education, digital literacy is not merely a generic graduate skill but a discipline-specific competency with direct implications for language learning and teaching. Accessing authentic English-language content online, evaluating the credibility of digital sources in English, communicating with international interlocutors through digital platforms, and producing multimodal texts in English — all of these are activities that demand both linguistic proficiency and digital literacy simultaneously. For pre-service English teachers, developing digital literacy is therefore doubly important: they must cultivate it as learners who navigate English-medium digital environments, and they must understand it sufficiently well as future educators to scaffold its development in their own students. Studies have shown that students' levels of digital literacy vary considerably even within the

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same institution, and that these differences are not always correlated with demographic factors such as age or socioeconomic background, but rather with the richness of the digital learning environments they have been exposed to throughout their education.

Self-Efficacy Theory and ICT Confidence in Pre-Service Teachers

Bandura's (1997) self-efficacy theory offers another significant theoretical lens for understanding the gap between ICT use and pedagogical readiness. Self-efficacy is defined as an individual's belief in their capacity to execute behaviors necessary to produce specific outcomes. In the context of technology-enhanced teaching, self-efficacy shapes not only whether a teacher attempts to integrate ICT, but also how persistently they pursue that integration when obstacles arise and how creatively they design technology-based activities. A teacher with high ICT self-efficacy is more likely to experiment with unfamiliar tools, recover productively from technical failures, and design tasks that stretch toward the higher levels of the SAMR model, while a teacher with low self-efficacy is more likely to retreat to familiar, low-risk uses of technology even when more transformative approaches would better serve their students' learning needs.

Bandura identified four primary sources from which self-efficacy beliefs are built: mastery experiences (direct, successful experiences with the behavior in question), vicarious experiences (observing models who succeed at the behavior), social persuasion (encouragement from credible others), and physiological states (the emotional and physical responses associated with performing the behavior). Applied to pre-service teachers' ICT readiness, these sources suggest that building genuine ICT self-efficacy requires more than exposure to technology — it requires structured opportunities to practice designing and implementing technology-based teaching activities successfully, models of effective technology-using teachers, supportive mentoring from supervisors and lecturers, and a learning environment that reduces the anxiety often associated with technology failure. The moderate pedagogical readiness scores found in the present study align with a self-efficacy interpretation: students who use ICT regularly as learners have accumulated some mastery experience, but without guided opportunities to practice teaching with ICT, their self-efficacy for technology-integrated instruction remains insufficiently developed.

Constructivist Learning Theory and Technology-Enriched Language Learning

From a broader theoretical standpoint, the integration of ICT in language education finds one of its strongest foundations in constructivist learning theory, most influentially articulated by Vygotsky (1978) and Bruner (1966). Constructivism holds that learners do not passively receive knowledge but actively construct it through experience, interaction, and reflection. Vygotsky's concept of the Zone of Proximal Development (ZPD) — the space between what a learner can achieve independently and what they can achieve with guidance — is particularly relevant to technology-enhanced language learning, since digital tools can serve as scaffolds that extend a learner's productive capacity into that zone. An online discussion forum, for instance, may allow a student to compose and refine written arguments in English with the support of peers and available reference tools, achieving a level of communicative accuracy and complexity that would be difficult to reach without those scaffolds.

Constructivism also underpins many of the most widely cited arguments for ICT integration in language learning: that technology enables learners to access authentic, real-world language in use; that it facilitates collaborative knowledge construction through tools such as wikis, shared documents, and discussion platforms; that it supports individualized, self-paced learning through adaptive applications and on-demand resources; and that it creates opportunities for meaningful communication with speakers of English beyond the immediate classroom environment. These constructivist affordances of ICT are most fully realized, however, when the technology is deliberately embedded in learning designs that make social interaction, active knowledge construction, and authentic communication central — not incidental — features of the learning experience. This places significant responsibility on the teacher as a designer of technology-enriched learning environments, reinforcing once again the importance of pedagogical readiness as a construct distinct from, and not automatically produced by, familiarity with technology as a user.

Mobile-Assisted Language Learning (MALL) and Its Implications for EFL Students

A specific application of ICT that has gained considerable traction in EFL contexts, particularly in Indonesia where smartphone penetration is high relative to laptop or desktop computer ownership, is Mobile-Assisted Language Learning (MALL). MALL refers to the use of mobile devices — primarily smartphones and tablets — to support language learning in formal, informal, and incidental contexts.

Research on MALL has consistently highlighted its potential for extending language learning beyond the classroom: students can access vocabulary applications, language podcasts, interactive grammar exercises, and real-time translation tools at virtually any time and from virtually any location, enabling the kind of sustained, distributed practice that is widely recognized as important for second language acquisition.

In the Indonesian university context, smartphones are frequently the primary and sometimes the only reliable digital device available to students, particularly those from lower-income backgrounds or those studying at smaller private institutions outside major cities. This makes MALL not merely a supplementary strategy but in many cases the de facto model of ICT-supported language learning. Yet MALL also reproduces the infrastructure challenges identified in the present study: smartphone-based learning depends heavily on stable internet connectivity, which remains inconsistent in many parts of Indonesia, and not all mobile applications are designed with the pedagogical considerations needed to support systematic language development. Understanding how students perceive the usefulness and ease of use of mobile-based ICT tools, and what barriers they encounter in using them, is therefore directly relevant to designing MALL-informed language curricula that respond realistically to students' technological circumstances.

Previous Studies on ICT Perceptions Among EFL Pre-Service Teachers

A growing body of empirical literature has examined how EFL pre-service teachers perceive and engage with ICT, and the findings converge around several consistent themes. Fadillah et al. (2024) found that EFL learners generally report positive attitudes toward ICT-based activities and associate them with improved English language achievement, but note that perceived benefits are moderated by access quality and instructional support. Rahmah (2024) similarly found that EFL students in Indonesian universities view ICT-based course activities favorably but identify lecturer guidance as a critical factor in whether technology use translates into meaningful learning. Sabiri (2020), in a systematic review of the ICT-in-EFL literature, concluded that while ICT clearly offers multiple affordances for language learning across the four skills, the evidence for its effectiveness is most robust when it is supported by explicit pedagogical frameworks that align tool use with learning objectives.

Studies specifically examining pedagogical readiness among pre-service EFL teachers add further nuance to this picture. Henderson et al. (2017) found that student perceptions of 'useful' technology in higher education were closely tied to whether they could see a clear connection between the technology and their learning goals — a finding that underscores the pedagogical dimension of usefulness perceptions. Li and Zhu (2023), focusing on self-determination in digital tool use, found that students who experienced greater autonomy in choosing and using digital tools for language learning reported higher motivation and more sustained engagement. Taken together, these studies point toward a consistent conclusion: ICT perception, readiness, and practice are not simply matters of infrastructure or tool availability, but are deeply shaped by the quality of pedagogical design, the presence of supportive institutional conditions, and students' own sense of agency and confidence in the digital learning environment. The present study contributes to this literature by providing empirical evidence from a specific institutional context — a private university in Banten — that has received relatively limited attention in the existing research.

METHOD

This study adopted a descriptive quantitative approach to map students' perceptions of ICT use in English language learning. A descriptive design was chosen because the primary aim was to portray existing conditions as they are, without manipulating variables or testing causal relationships between them.

Research Design and Participants

The study was conducted in the English Language Education program at a private university in Banten, Indonesia. Sixty active students from various cohorts took part, selected through convenience sampling — that is, students who were willing and reachable at the time data collection took place. This technique was chosen for practical reasons of accessibility and participant availability, given that data collection occurred during an active semester. All participants had completed at least one course involving the use of ICT, giving them direct, relevant experience on which to base their responses.

Instrument and Data Collection

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Data were gathered using a closed-ended questionnaire built around four main dimensions: perceived usefulness, perceived ease of use, technical and institutional barriers, and pedagogical readiness. Each dimension was represented by several statement items rated on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was written in Indonesian to ensure clarity for all participants, then distributed online through a digital form to the targeted student population.

Before wider distribution, the questionnaire was piloted with a small group of students outside the main sample to check the clarity of the language and the appropriateness of each item. Data collection ran for roughly two weeks, ultimately yielding 60 fully completed and valid responses for further analysis.

Data Analysis Technique

Collected data were analyzed using descriptive statistics, including means, standard deviations, and percentage distributions for each dimension and statement item. Mean scores were then grouped into low, moderate, and high categories to ease interpretation. This analysis offered a general picture of how students view ICT overall while also identifying which dimensions stood out as the strongest and weakest among the four.

RESULTS AND DISCUSSION

Overview of Student Perceptions

Descriptive analysis of the data collected from 60 respondents shows that students generally hold a positive perception of ICT use in English language learning. Among the four dimensions measured, perceived usefulness received the highest average score, followed by ease of use and pedagogical readiness, while technical and institutional barriers recorded the lowest average score of all. A summary of these results is presented in Table 1.

Table 1. Summary of Mean Scores by Dimension

Dimension	**Item Focus**	**M**	**SD**	**Category**
Perceived Usefulness	ICT makes content easier to understand	4.21	0.52	High
Ease of Use	Applications/platforms are easy to operate	3.96	0.61	High
Technical & Institutional Barriers	Internet stability and campus support	3.18	0.74	Moderate
Pedagogical Readiness	Confidence in applying ICT when teaching	3.74	0.68	Moderate

The table above reflects a pattern consistent with many similar studies: a gap between students' positive attitudes toward technology and the level of infrastructure or institutional support they actually experience. Students broadly feel that ICT helps their learning, yet that sense of benefit is not always matched by a smooth experience in accessing or consistently using it.

Usefulness and Ease of Use

On the usefulness dimension, most students agreed that ICT helps them understand English learning material more effectively, particularly when it comes to accessing authentic examples of language use, listening to native pronunciation through video or audio, and practicing writing and reading through various digital platforms. Several students noted that the ability to revisit material at their own pace — something difficult to replicate in conventional face-to-face instruction — represents one of the greatest added benefits of using ICT.

The ease-of-use dimension likewise produced fairly high scores, indicating that today's students generally encounter little difficulty operating digital learning applications and platforms. This familiarity mirrors their everyday habits with smartphones and various personal-use applications, so the shift toward academic use tends to require relatively little adjustment.

Barriers Faced by Students

In contrast to the previous two dimensions, technical and institutional barriers recorded the lowest average score among all dimensions measured. This finding deserves particular attention, as it shows that students' enthusiasm for ICT is not yet fully matched by adequate supporting conditions. The barriers students raised most often included unstable internet connections — especially for those living in areas with limited access — along with a shortage of devices adequate for following digital-based learning optimally.

Beyond technical issues, a number of students also pointed to a lack of guidance from lecturers in using ICT meaningfully. They felt that ICT use sometimes amounted to little more than transferring printed material into digital form, without genuinely tapping into the interactive or collaborative potential these platforms actually offer. This reinforces the understanding that the mere presence of technology does not automatically produce more meaningful learning unless paired with an appropriate pedagogical strategy.

Students' Readiness as Future Educators

On the pedagogical readiness dimension, scores fell into the moderate category, lower than both the usefulness and ease-of-use dimensions. This finding is worth examining closely, as it points to a gap between students' experience as ICT users and their confidence in applying ICT independently once they become teachers themselves. Some students expressed that although they are accustomed to using various applications for their own learning, they do not yet feel fully confident designing effective ICT-based learning activities for their own future students.

This suggests that experience using technology as a learner does not automatically translate into pedagogical competence for teaching with it. Dedicated space within the curriculum is needed — through courses or training that explicitly address strategies for integrating ICT into language teaching — so that students become not only proficient technology users, but also capable designers of learning that uses it meaningfully.

Implications for Study Programs and Teaching Practice

Taken together, these findings carry several practical implications. First, study programs should consider strengthening infrastructure, particularly campus internet access, given that technical barriers remain one of the primary obstacles students report. Second, digital literacy training for students should go beyond the technical operation of applications and also address the pedagogical question of how ICT can be designed to support specific language learning goals. Third, lecturers teaching ICT-based courses could involve students more directly in designing and practicing technology-based learning activities, so that students become not merely passive users but active participants in building their confidence as technologically literate future teachers.

These findings also serve as a reminder that ICT integration policy in higher education cannot be applied uniformly across institutions. Local context — including geographic conditions, infrastructure access, and the academic culture of a given institution — needs to be a central consideration so that resulting policies genuinely address students' needs, rather than simply following broader trends in educational technology.

CONCLUSION

This study shows that English Education students generally hold a positive perception of ICT use in language learning, particularly with regard to its usefulness and ease of use. However, this positive perception is not yet matched by an equivalent level of infrastructure readiness and institutional support, as reflected in the technical-barriers dimension recording the lowest score among all dimensions measured. Students' pedagogical readiness as future teachers likewise remains at a moderate level, signaling that the ability to use technology has not yet fully developed into the confidence needed to integrate it independently into one's own teaching practice.

These findings affirm that successful ICT integration in English language education cannot rest on student enthusiasm for technology alone; it also requires adequate infrastructure support and structured pedagogical preparation. Study programs and higher education institutions are encouraged to treat these findings as a foundation for designing policies and training that better reflect the conditions and needs of students within their own settings. Future research would benefit from a larger sample and a qualitative approach that explores more deeply how students across different institutional contexts experience and make sense of ICT use.

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Of particular practical significance is the finding regarding pedagogical readiness. The moderate scores in this dimension highlight a structural gap that curricula in English Education programs have not yet adequately addressed: the transition from being a technology-savvy learner to becoming a technology-capable teacher requires explicit, guided preparation. Without dedicated coursework or supervised practicum experiences that foreground ICT-based lesson design, pre-service teachers are likely to enter the profession replicating the same surface-level uses of technology they experienced as students — forwarding materials digitally, for example, rather than designing interactive, communicative, or collaborative ICT-based language activities.

On the institutional level, this study calls attention to the need for a more nuanced approach to ICT policy in higher education. Rather than applying blanket national or regional directives, institutions — particularly private universities operating outside major urban centers — should conduct regular diagnostic assessments of their students' digital readiness and the quality of their ICT infrastructure. Such assessments would allow for targeted investment in the areas of greatest need, whether that means upgrading campus Wi-Fi networks, subsidizing device access for students in underserved areas, or designing faculty development programs focused specifically on digital pedagogy in language education.

In terms of directions for future research, several avenues warrant exploration. A mixed-methods study that combines quantitative survey data with in-depth interviews or classroom observation would yield richer insights into the specific ways in which ICT barriers manifest in students' daily learning experiences. Comparative studies across institutions with differing levels of resources — contrasting, for instance, a well-resourced urban university against a smaller private institution in a peri-urban area — could illuminate the degree to which institutional context shapes students' perceptions and readiness. Longitudinal research tracking the same cohort of pre-service teachers from their undergraduate studies into their early years of professional teaching would also be particularly valuable in establishing whether pedagogical ICT readiness built during training translates into sustainable classroom practice over time.

REFERENCES

Abdurahmonov, S., Yusupova, M., & Tashkentova, D. (2020). The role of digital technology in foreign language teaching. *International Journal of Innovative Technology and Exploring Engineering, 9*(4), 112–117.

Dewi, N. P., Susanto, D., & Wahyuni, S. (2023). Integrating mobile-assisted language learning in EFL classrooms: Opportunities and challenges. *Studies in English Language and Education, 10*(2), 245–261. https://doi.org/10.24815/siele.v10i2.27001

Fadillah, E. N., Widiastuti, S., Sulaeman, D., Sugiartini, P., & Setiawan, D. (2024). EFL learners' attitudes on the use of ICT-based learning as efforts in improving English language achievement. *Journal of Languages and Language Teaching, 12*(3), 1573–1584. https://doi.org/10.33394/jollt.v12i3.11388

Henderson, M., Selwyn, N., & Aston, R. (2017). What works and why? Student perceptions of 'useful' digital technology in university teaching and learning. *Studies in Higher Education, 42*(8), 1567–1579. https://doi.org/10.1080/03075079.2015.1007946

Iftanti, E., Imelda, I., & Yunita, W. (2023). Uncovering EFL learners' demotivation towards English online learning during the Covid-19 pandemic in Indonesia. *Studies in English Language and Education, 10*(1), 96–116.

Li, R., & Zhu, J. (2023). Examining the role of self-determination in students' use of digital tools for language learning. *Computer Assisted Language Learning, 36*(5–6), 845–866.

Pardede, P. (2020). Integrating the 4Cs into EFL integrated skills learning. *Journal of English Teaching, 6*(1), 71–85. https://doi.org/10.33541/jet.v6i1.190

Rahmah, S. (2024). Students' perceptions of ICT-based activities in EFL courses. *Mimbar Pendidikan, 9*(1), 45–60.

Sabiri, K. A. (2020). ICT in EFL teaching and learning: A systematic literature review. *Contemporary Educational Technology, 12*(1), ep261. https://doi.org/10.30935/cedtech/6207

Singh, T. K. R. (2018). Use of ICT in teaching and learning English language. *International Journal of English Literature and Social Sciences, 3*(4), 568–572.