

L2 English learner perceptions on using educational technologies for language learning at the tertiary level

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ABSTRACT

As technology increasingly pervades both the life spaces and learning spaces of tertiary students, the integration of educational technologies into L2 English language learning has become a key consideration for educators aiming to develop teaching approaches that align with students' technological experiences. This research explores L2 English learners' self-perceptions regarding their use of technology for language learning, both inside and outside the classroom. It presents preliminary findings on how L2 English language learners at a private university in Japan perceive and use technological tools, platforms, and devices to support their L2 English learning. These self-perceptions reflect learners' engagement with technology and their experiences within formal tertiary-level English language coursework. This study builds upon existing research on technology acceptance. Findings suggest that most students hold a generally positive view of integrating educational technologies into both their academic and independent English study. However, some responses revealed concerns and anxiety about adopting new technologies. The research includes written excerpts from participants, providing insight into their reasoning and highlighting the complexity of learner attitudes toward technology-enhanced language learning.

KEYWORDS: CALL, educational technology, ELF learners, learner perceptions, MALL

1. INTRODUCTION

In the modern era, technology has become deeply integrated into both everyday life

and educational contexts, fundamentally transforming language learning practices. Digital tools such as mobile applications, generative artificial intelligence (GAI), and online platforms offer unprecedented opportunities for learners to engage with language content flexibly and independently. These tools can also support personalized learning paths, enabling students to tailor their study strategies according to individual strengths and weaknesses (Mortazavi et al., 2021). The increasing prevalence of technology in learners' daily routines suggests that understanding its role in language learning is more critical than ever. This evolving landscape necessitates closer examination of how learners experience and respond to technology in educational settings.

Despite the growing adoption of educational technologies, a critical gap remains in understanding learners' perceptions, particularly within culturally specific contexts such as Japan. Previous research emphasizes the importance of examining learners' attitudes toward technology, as cultural norms and educational traditions influence engagement and adoption (Balouchi & Samad, 2021). By investigating learner perceptions, educators can design technology-enhanced pedagogical strategies—such as mobile-assisted language learning (MALL)—that align with students' needs and maximize learning outcomes (Ta & Nghiem, 2024). This insight is essential for creating meaningful learning experiences that are both effective and culturally sensitive. Addressing this gap is therefore essential for informed and context-responsive educational practice.

In Japan, traditional teacher-centered methods have historically dominated the educational system, creating unique challenges for integrating learner-centered, technology-enhanced approaches. As technological tools become more embedded in students' academic and personal lives, educators must understand learners' experiences to ensure alignment with their needs and preferences (Guo & Wang, 2025). Understanding how learners interact with digital tools also informs the development of scaffolding strategies that can reduce anxiety and increase engagement and self-directed language learning skills (Tram et al., 2024). Bridging traditional teaching methods with modern technological practices is critical to supporting learners' successful adoption of educational technologies. This context highlights the importance of examining technology use within Japan's specific educational environment.

This study examines Japanese university EFL learners' perceptions, offering insights into how students who are generally assumed to possess advanced literacies and prior technological experiences use and think about MALL-based educational technologies (Tanaka & Yamamoto, 2025). Examining learners' cultural and contextual experiences provides a nuanced understanding of technology adoption and highlights potential areas for pedagogical innovation (Waluyo & Kusumastuti, 2024). Such insights are particularly valuable for designing classroom strategies that resonate with students' lived experiences. Focusing on this population allows for a more culturally grounded interpretation of technology-enhanced learning.

By exploring learners' attitudes, this study contributes to a broader understanding of the role of technology in second language acquisition, emphasizing the interplay between cultural expectations, learner perceptions, and technological affordances.

Investigating these perceptions can guide educators in integrating digital tools more effectively, fostering both engagement and learning outcomes in tertiary-level EFL contexts (Yamaoka, 2024). Ultimately, this research aims to inform pedagogical practices that are responsive to learners' needs in increasingly technology-mediated language learning environments.

2. LITERATURE REVIEW

Educational technologies have gained increasing attention as tools for enhancing second language acquisition. Mobile applications, artificial intelligence (AI) based platforms, and online learning systems offer learners innovative ways to develop skills such as speaking, listening, and vocabulary acquisition (Zhang et al., 2023). These technologies allow learners to engage continuously with language content outside the classroom, providing opportunities for extended practice and self-directed learning (Rouder et al., 2021). The accessibility and flexibility of these tools have made them integral to contemporary language learning. This growing integration underscores the need to understand how learners perceive and use these technologies in practice.

MALL has become a particularly effective approach for integrating language study into daily life. Mobile apps can nurture autonomous learning, allowing students to study at their own pace and according to personal schedules (Deng & Yu, 2022). Such tools promote flexibility and engagement, especially among tech-savvy learners, but their success depends on learners' comfort and readiness to adopt new technologies (Mortazavi et al., 2021). Research suggests that effective MALL integration can increase learners' motivation and reinforce language skills over time (Ta & Nghiem, 2024). These findings highlight the importance of aligning mobile technologies with learners' preferences and readiness levels.

Learners' perceptions of technology are central to its adoption and effective use. According to the Technology Acceptance Model (TAM), learners are more likely to adopt tools they perceive as practical and easy to use (Davis, 1989). However, these perceptions are shaped by prior experience and personal learning preferences, which may vary culturally and contextually. In Japan, for instance, traditional pedagogies can influence learners' willingness to embrace unfamiliar digital tools (Teng, 2024). Understanding these perceptions is critical to designing interventions that align with learners' expectations and enhance technology acceptance (Yan & Zhang, 2024). Examining learner perceptions therefore provides essential insight into successful technology integration.

The integration of AI-based tools into language learning presents both opportunities and challenges. AI technologies, such as chatbots and language models, can provide personalized feedback and adaptive learning paths (Guo & Wang, 2025). Learners' self-efficacy, or belief in their ability to use these tools effectively, strongly influences engagement and learning outcomes (Tram et al., 2024). Those with lower confidence may experience frustration or anxiety, limiting the potential benefits of AI. Hence, fostering learner self-efficacy is key to maximizing the positive impact of AI in language education (Zhang et al., 2023). This relationship underscores the importance of

supportive instructional environments when introducing AI tools.

Emotional responses are another critical factor in technology adoption. Anxiety, frustration, and other negative emotions can hinder engagement with new tools, especially in cultures emphasizing structured learning (Tanaka & Yamamoto, 2025). Providing learners with guidance and support can reduce these barriers, fostering more positive experiences with digital technologies (Lochmiller, 2021). Supporting learners emotionally can improve their willingness to experiment with new technologies and sustain long-term engagement. Addressing emotional factors is therefore essential for successful technology-enhanced language learning.

Preliminary evaluations of AI use among language learners show that AI tools can enhance learner confidence and motivation when integrated thoughtfully (Allen & Mizumoto, 2024; Meniado et al., 2024; Waluyo & Kusumastuti, 2024). Learners have reported appreciating the immediate feedback and low-pressure practice offered by AI, especially in writing and reading comprehension tasks (Meniado et al., 2024). However, educators must ensure these tools supplement, rather than replace, critical thinking and independent skill development (Allen & Mizumoto, 2024). Strategically balancing AI use with traditional pedagogical methods ensures meaningful learning outcomes and skill retention (Waluyo & Kusumastuti, 2024). This balance reinforces the need for pedagogically driven decisions in AI integration.

Finally, learners' experiences highlight the importance of balancing technological benefits with potential drawbacks. Overreliance on AI can undermine independent learning and critical engagement, and effective integration can enhance autonomy and confidence (Waluyo & Kusumastuti, 2024). By carefully monitoring the integration of AI and mobile technologies, educators can foster learner autonomy and motivation while mitigating potential downsides (Tram et al., 2024). These considerations emphasize the need for reflective and responsive technology use in language education.

In summary, the literature available underscores that educational technologies, including MALL and AI, can transform language learning, but their success depends on usability, learner perceptions, cultural context, and emotional support. The current study builds on these insights by directly examining Japanese EFL learners' experiences and attitudes toward technology (Ta & Nghiem, 2024). Such an approach ensures that technology-enhanced learning strategies are both effective and contextually appropriate for tertiary-level EFL learners. This focus positions the study to contribute meaningful, context-sensitive insights to the field of technology-enhanced language learning.

3. RESEARCH QUESTIONS

To explore Japanese tertiary-level L2 English learners' experiences with technology, this study focused on their attitudes, preferences, and concerns regarding digital tools. Understanding these perceptions can help identify both the benefits and challenges learners face when integrating technology into language learning (Balouchi & Samad, 2021). Examining these perceptions provides a foundation for designing technology-enhanced learning strategies that are both effective and culturally appropriate (Mortazavi et al., 2021). This focus establishes a learner-centered perspective that guides the

formulation of the study's research questions.

The study was guided by four key research questions, each designed to capture learners' self-reported experiences with educational technologies. These questions sought to reveal the types of software and platforms learners use, preferred devices, desired technology-based activities, and concerns about using digital tools. Answering these questions enables a detailed understanding of how learners interact with educational technologies and what factors influence their engagement (Tram et al., 2024). Together, these questions provide a structured framework for examining both positive and negative dimensions of technology use.

The guiding questions were:

1. What technology software or platforms have you previously used in a university English language-learning course? Please provide one example and describe your experience using it.
2. What type of technology device do you prefer to use for English language learning, either independently or during a university course? Please provide one example. If you do not have a preferred device, please explain why.
3. What types of activities do you wish to use technology for when learning English independently or in a university course? Please provide one example. If you do not wish to use technology-based activities, please explain why.
4. Do you have any concerns or worries about using technology for your English language learning? Please explain one reason for your answer, using an example if possible.

These questions were designed to elicit detailed, reflective responses, highlighting both learners' engagement and apprehensions. The insights gained from participants are expected to inform strategies for integrating technology effectively into L2 English learning environments. By collecting comprehensive data on learner experiences, the study aims to provide actionable insights for educators seeking to enhance technology adoption and learner outcomes (Yan & Zhang, 2024). This approach ensures that the research questions directly inform both pedagogical practice and future research directions.

4. METHODOLOGY

This study employed a cross-sectional design to examine L2 English learners' perceptions of educational technology at a single point in time. Such a design allows for capturing a snapshot of learners' attitudes, experiences, and concerns (Capili, 2021). To strengthen the credibility of the findings, member checking was incorporated, with a fellow researcher reviewing all data to confirm that interpretations reflected participants' perspectives accurately (Creswell & Poth, 2018; Lincoln & Guba, 1985). This process ensured that the study maintained methodological rigor and aligned with best practices in qualitative research (Lochmiller, 2021). Together, these design choices enhanced the trustworthiness and interpretive validity of the study.

The study's analysis followed a thematic approach, allowing patterns and recurring themes to emerge from the data. Thematic analysis was applied iteratively to

refine categories and identify meaningful insights (Braun & Clarke, 2006; Lochmiller, 2021). Table 1 outlines the six phases of thematic analysis used in this study, illustrating the systematic approach to coding and theme generation and providing a clear roadmap for how data were analyzed. This iterative process ensured that the analysis captured both explicit and nuanced aspects of learners' experiences. As a result, the analytical framework supported a transparent and replicable examination of the qualitative data.

Table 1
Phases of Thematic Analysis

Phase	Description of the Process
1. Familiarizing with the data	Reading and re-reading data for initial ideas
2. Generating initial codes	Collating data relevant for each interesting code
3. Searching for themes	Collating data into potential themes
4. Reviewing the themes	Checking themes with related data extracts
5. Defining and naming themes	Generate names and definitions for each theme
6. Producing the report	Final analysis of selected extracts for relevancy

A mixed-methods approach was adopted, combining quantitative and qualitative data to provide both breadth and depth in understanding learner experiences. Quantitative data identified broad trends, while the responses to open-ended questions provided rich insights into learners' reasoning and emotional responses (Ahmad et al., 2019; Weller et al., 2018). Using this approach allowed for triangulation of findings, enhancing the trustworthiness of the results (Rouder et al., 2021). This methodological integration ensured that both numerical patterns and individual perspectives were meaningfully represented in the analysis.

In qualitative research, sample adequacy is determined by data sufficiency rather than a predetermined number of participants. The final sample was guided by thematic saturation, reached when no new insights emerged from the data (Mweshi & Sakyi, 2020; Weller et al., 2018). Relying on thematic saturation ensured that the study collected rich and comprehensive information reflective of participants' perceptions (Lochmiller, 2021). This approach supported the credibility and completeness of the qualitative findings.

A total of 149 undergraduate students participated, representing diverse academic majors and year levels (Table 2). This variety helped ensure that findings reflected a broad range of experiences and backgrounds, allowing for a more holistic view of technology use in language learning (Mortazavi et al., 2021). Such diversity enhanced the study's capacity to capture varied learner perspectives within the tertiary EFL context.

Table 2
Profile of Participants

Year Level	Participants (<i>N</i> = 149)
1 st year Undergraduate	35
2 nd year Undergraduate	92
3 rd year Undergraduate	22

Participants were fully briefed on confidentiality measures and provided informed consent. Ethical approval was granted by the university’s research ethics committee, ensuring adherence to institutional standards for research involving human subjects. Adhering to ethical standards also ensured that participants felt secure in sharing candid reflections on their technology use (Tram et al., 2024). This ethical foundation supported open participation and strengthened the overall trustworthiness of the data collected.

Data collection included multiple opportunities for reflection, allowing participants to revisit and refine their responses. This two-stage process encouraged more thoughtful and accurate reporting of perceptions (Creswell & Creswell, 2017). Participants were also permitted to use machine translation tools to ensure clarity and precision in their written responses, supporting the expression of complex ideas regardless of language proficiency (Rouder et al., 2021). These measures promoted the accuracy and richness of qualitative data while accommodating varying language proficiencies (Yamaoka, 2024). Together, these procedures enhanced both the depth and inclusivity of participant responses.

Purposive sampling ensured that participants met the study’s inclusion criteria as tertiary-level L2 English learners. This approach enhanced the relevance and rigor of the study by selecting learners whose experiences directly aligned with the research objectives (Mortazavi et al., 2021; Mweshi & Sakyi, 2020). Selecting participants purposively helped focus the study on learners most likely to provide insights into technology-enhanced language learning. As a result, the sample was well suited to addressing the study’s research questions.

Overall, the methodology provided a robust framework for examining Japanese EFL learners’ experiences and perceptions, combining careful sampling, mixed-method data collection, and rigorous thematic analysis. The findings derived from this approach offer meaningful insights for understanding technology-enhanced language learning in culturally specific contexts (Yan & Zhang, 2024). This comprehensive methodological approach ensured that the study’s conclusions were both reliable and applicable to similar tertiary-level EFL contexts. This methodological rigor provides a strong foundation for interpreting the study’s findings and implications.

5. FINDINGS

The findings of this study provide a comprehensive overview of students’ experiences with technology in English language learning, as summarized in Appendices A

through D. Collaborative platforms (see Appendix A), including Blackboard (2025), Book Creator (2025), Google Classroom (2025), Google Slides (2025), and Padlet (2025), were reported to support confidence, creativity, organization, and peer interaction. Students preferred devices such as smartphones, PCs, tablets, headphones, and smartwatches (Appendix B) for their portability, functionality, and support for individualized learning. Technology-based activities—including translation tools, language learning apps, AI tools, and social media platforms (Appendix C)—facilitated vocabulary acquisition, communication practice, cultural exposure, and self-paced study. Despite these benefits, students also expressed concerns regarding technology anxiety, complexity, distractions, novelty effects, and connectivity issues (Appendix D), emphasizing the need for guided and balanced technology integration.

5.1 Collaborative Learning Platforms

This section presents the results of the thematic analysis conducted to address Research Question 1: What technology software or platforms have you previously used in a university English language-learning course? Participants were asked to provide one example and describe their experience using it. From the analysis of their responses, four major categories of technological tools emerged: collaborative learning platforms, game software, social media platforms, and other tools. As summarized in Table 3, collaborative learning platforms were the most frequently reported, with 71 of 149 participants indicating prior use. Game software was reported by 39 participants, social media platforms by 32, and other tools by 7. These findings suggest that students primarily engaged with technologies that supported interaction, collaboration, and structured course activities, reflecting both the instructional approaches employed and students' preferences for collaborative or guided learning environments.

Table 3

Number of Participants' Responses on Collaborative Learning Platforms and Student Experiences

Themes	Responses (<i>N</i> = 149)
Collaborative Learning Platforms	71
Game Software	39
Social Media Platforms	32
Other	7

5.1.1 Padlet

Padlet (2025) is an online bulletin board that allows users to post texts, images, links, and documents collaboratively. Participants valued Padlet (2025) for its supportive, low-pressure environment for expressing ideas. One student noted, “I used Padlet in a previous course ... it was comfortable to write in a group board and think before I wrote my message” (Participant 23, 1st year). Others described how initial difficulties decreased over time, enhancing motivation: “Padlet is a good way to communicate. ... The last weeks of our course, Padlet is now easy to say my meaning

... my enthusiasm to learn English grows” (Participant 77, 2nd year). Another student highlighted the sense of community fostered through Padlet (2025): “We do community posting of our ideas ... learning community online study has a good purpose to communicate directly in English language” (Participant 11, 3rd year). Collectively, these reflections suggest that Padlet (2025) not only facilitates idea sharing but also promotes confidence, reflective practice, and community building in L2 learning contexts.

5.1.2 Google Classroom

Google Classroom (2025) integrates Google Workspace and other applications, providing a centralized environment for managing course materials. Students reported that its interface was generally accessible, though some experienced challenges related to digital literacy. One participant remarked, “It is simple navigation ... I hope my future teachers use it ... I have confidence to use” (Participant 132, 2nd year), while another noted, “It was two weeks before I could understand well enough ... language learning and computer literacy are together as two parts of my study” (Participant 49, 1st year). These responses suggest that while Google Classroom (2025) effectively organizes content and supports communication, learners’ technical proficiency can influence their experience, emphasizing the need for instructional scaffolding and digital skill development alongside language learning.

5.1.3 Book Creator

Book Creator (2025) enables the creation of multimedia digital books, combining text, images, audio, and video. Students highlighted its potential for fostering creativity and collaboration. One participant explained, “Sharing ideas with classmates made our storytelling fun ... next time, I want to try to make a Book Creator instruction manual” (Participant 10, 1st year), while another emphasized the professional design features: “Technology and language skills together are important ... it was a very professional process of learning” (Participant 100, 3rd year). These responses indicate that Book Creator (2025) encourages both creative expression and group engagement, supporting multimodal language practice that extends beyond traditional text-based tasks.

5.1.4 Blackboard

Blackboard (2025) is a widely used learning management system that organizes course materials and assignments. Participants noted both benefits and challenges. One student appreciated the clarity of organizational categories: “The best teacher using Blackboard ... has the most clear category sections. The categories are similar to a signpost” (Participant 139, 2nd year), while another acknowledged initial navigation difficulties but observed gradual improvement: “I forget the Blackboard tabs ... slowly, I can do more with each new course” (Participant 6, 1st year). These reflections underscore the importance of platform usability and the need for gradual familiarization to maximize students’ engagement.

5.1.5 Google Slides

Google Slides (2025) is a cloud-based presentation tool that enables collaborative content creation and independent practice. Participants valued its adaptability and applicability across courses. One participant stated, “Using various apps I didn’t use before is educational and a good challenge” (Participant 85, 2nd year), while another highlighted skill transfer: “I started first time in the English course and now use it for my other university courses ... I have confidence to use with PC or smartphone” (Participant 71, 1st year). These responses indicate that Google Slides (2025) not only supports English learning but also cultivates transferable digital skills relevant across academic contexts.

5.1.6 Summary

Overall, collaborative learning platforms were perceived as highly beneficial for enhancing creativity, communication, and community engagement in English language learning. Tools such as Book Creator (2025) and Padlet (2025) were particularly valued for fostering reflective practice and multimodal expression, while Blackboard (2025) and Google Classroom (2025) highlighted the importance of digital literacy and structured access to resources. Google Slides (2025) illustrated the transferability of skills across courses. Collectively, these findings demonstrate that learner experiences with collaborative platforms are influenced by both technical competence and instructional support, emphasizing the interconnected roles of usability, scaffolding, and learner confidence in technology-enhanced language learning.

5.2 Preferred Type of Technology Device for Use with English Language Learning

The second research question asked: What type of technology device do you prefer to use for English language learning by yourself and/or during a university course? Please provide one example. If you do not have a preferred technology device, please explain one reason. Thematic analysis of participants’ responses revealed distinct preferences influenced by convenience, accessibility, and functionality. Participants demonstrated strategic selection of devices to support both independent and classroom-based English learning activities (see Table 4).

Table 4

Number of Participants’ Responses on Preferred Technology Devices for English Language Learning

Themes	Responses (<i>N</i> = 149)
Smartphone	76
PC and Tablet	44
Earbuds, Earphones, and Headphones	15
Smartwatch	11
Other	3

5.2.1 Smartphone

Smartphones were the most frequently reported and multifunctional devices, valued for their portability and access to applications, multimedia, and communication platforms. Participants described smartphones as essential for submitting assignments, sharing class information, and managing study tasks. One participant stated, “I like submitting video homework with my smartphone because it’s quick and convenient. I use it more than any other tool and find it essential for my schoolwork” (Participant 109, 3rd year). Another emphasized their utility for notetaking and peer collaboration: “My smartphone is essential for recording class information, sharing notes with friends when absent, and making certain that I don’t miss important work” (Participant 18, 2nd year). Quick translation and information retrieval were also highlighted: “Quick information comes best from my phone. I can do translation and scan the teacher’s text or announcements quickly and usually quite accurately” (Participant 37, 1st year). Overall, smartphones were central to learners’ daily academic routines, supporting communication, study efficiency, and resource management.

5.2.2 PC and Tablet

PCs and tablets were the next most frequently cited devices, valued for their functionality and adaptability. PCs were preferred for tasks requiring detailed work and professional presentation layouts. For example, one participant explained, “Using my PC for learning English allows me to do classwork with attention to detail. For example, when I do a presentation, I can make a layout and effects that look professional. In contrast, using a smartphone is a little messy” (Participant 73, 2nd year). Participants also appreciated PCs for independent learning and organized resource management: “I like learning English on my PC because I can work at my own pace. I also use bookmarked resources such as an AI sentence writer, dictionary, and thesaurus” (Participant 66, 2nd year). Tablets were valued for portability but sometimes posed technical challenges: “Studying on my tablet is easy, but if I have a problem the teacher can’t fix, I need IT support and worry it might happen again” (Participant 40, 1st year). Collectively, PCs and tablets offered depth and flexibility, complementing smartphones by enabling detailed and structured learning.

5.2.3 Earbuds, Earphones, and Headphones

Participants frequently reported using earbuds or headphones to facilitate focused listening practice. One student described informal auditory learning: “Anytime I can, I want to use my earbuds to listen to music and interviews. Maybe in the future I will use English podcasts if my proficiency improves” (Participant 12, 1st year). Another noted pre-class routines: “Every day before the lesson begins, I study English from my favorite songs. It is a private way to study without disturbing others” (Participant 98, 2nd year). Earbuds were also practical during classroom listening activities: “Almost all students in my English courses use earbuds or earphones before lessons. If the teacher gives us listening activities, we can all listen individually. It is an asset for learning” (Participant 33, 1st year). These reflections demonstrate that audio devices are effective tools for independent and classroom listening practice, supporting concentration and

engagement.

5.2.4 Smartwatch

Although less frequently used, smartwatches were valued for quick, on-the-go access to language resources, particularly for vocabulary and reference tasks. One participant noted, “There is quick access to finding answers with my Apple Watch. It has helped me check meanings and find new vocabulary choices quicker than with my smartphone” (Participant 70, 2nd year). Another participant described occasional use outside formal lessons: “My Apple Watch is so accessible. I quickly check translation and continue with class. But in class time, we often use smartphones or PCs” (Participant 19, 1st year). Smartwatches thus functioned as complementary devices, providing immediate reference support and enhancing efficiency in learning activities.

5.2.5 Summary

Overall, participants preferred devices that balanced accessibility, convenience, and versatility. Smartphones emerged as the most essential tool for daily study and communication, while PCs and tablets provided depth for academic tasks requiring organization and precision. Audio devices such as earbuds supported individualized listening practice, and smartwatches offered rapid, on-the-go reference support. These findings illustrate that tertiary-level learners strategically leverage technology to optimize efficiency, portability, and personalization in English language learning.

5.3 Activities to Use Technology for English Language Learning

The third research question asked: What type of activities do you want to use technology for when learning English by yourself and/or during a university course? Please provide one example. If you do want to use technology-based activities for learning English, please explain one reason. Analysis of participants’ responses revealed several recurring activity types that support English learning, highlighting both academic and informal engagement with technology (see Table 5).

Table 5

Number of Participants’ Responses on Technology-Based Activities for English Language Learning

Themes	Responses (<i>N</i> = 149)
Translation and Dictionary Learning Support	53
Language Learning Applications	37
Social Media Platforms	31
The Internet	26
Other	2

5.3.1 Translation and Dictionary Learning Support

Translation tools and digital dictionaries were the most frequently mentioned technology-based activities, valued for rapid vocabulary access and comprehension support in both independent and classroom learning contexts.

5.3.1.1 Google Translate

Google Translate (2025) is a free online multilingual translation service. Participants emphasized its convenience for communicating with instructors and supporting comprehension. One student explained: “I use Google Translate to convert Japanese into English when I need time to think before speaking with my teacher. I have used it for over a year at university” (Participant 115, 2nd year). Another noted: “My main goal in language learning is to communicate effectively with my teacher about coursework, and Google Translate helps me do this confidently, since my teacher understands my messages” (Participant 63, 3rd year). Google Translate (2025) was thus perceived as a reliable and accessible tool for academic communication.

5.3.1.2 Weblio

Weblio (2025) is a Japanese online dictionary and encyclopedia platform providing bilingual word searches, grammar explanations, and encyclopedia functions. One participant described long-term use: “I have used Weblio since high school to look up English words, grammar, and encyclopedia entries. While some friends switched to other resources, I am comfortable with Weblio and prefer not to change” (Participant 3, 1st year). Another emphasized its breadth and reliability: “I use Weblio for its wide Japanese–English vocabulary range and trust it for my English courses and other subjects. I also recommended it to my friends, and some now use it too” (Participant 28, 2nd year). Weblio (2025) was regarded as a familiar and trusted resource for academic work.

5.3.1.3 DeepL Translator

DeepL Translator (2025) is an AI-powered translation tool noted for producing natural, contextually accurate translations. Participants reported its usefulness in reducing anxiety and improving writing. One learner commented: “I began using DeepL last year for translations and now for writing. It eases my anxiety, improves word choice, and is essential to my studies” (Participant 52, 2nd year). Another reflected: “My teacher introduced DeepL, which I find useful for homework, emailing professors, and coursework inquiries. I plan to keep using it at university and possibly in my future job” (Participant 108, 3rd year).

5.3.1.4 Grammarly

Grammarly (2025) is an AI-powered writing assistant providing grammar checking and style suggestions. Participants described it as valuable for academic writing, though subscription costs limited frequent use: “I need support with English writing since I’m not proficient. I like Grammarly for grammar checks and natural-sounding suggestions, but I don’t want a subscription because I only use it occasionally

for essays and long writing” (Participant 34, 2nd year).

5.3.1.5 ChatGPT

ChatGPT (OpenAI, 2025) allows interactive dialogue, practice, and feedback in multiple languages. One participant reflected: “Using ChatGPT to study individually a few times each week helps me practice verbal English, build confidence, and think more freely in English” (Participant 99, 2nd year). Another noted: “I like that ChatGPT allows follow-up questions. Even if I cannot think of the best prompt right away, it offers helpful options and is a reliable source for my English questions” (Participant 50, 3rd year). ChatGPT (OpenAI, 2025) was valued for building confidence and supporting interactive language practice.

5.3.2 Language Learning Applications

Language learning applications provide structured practice in vocabulary, grammar, listening, and conversation, often incorporating gamification to maintain engagement.

5.3.2.1 Babbel

Babbel (2025) is a subscription-based platform offering structured language lessons. Participants highlighted its flexibility and relevance for independent study: “Using the Babbel app, I learn more vocabulary and practise grammar beyond what I do in my English courses, making it a valuable supplement to my language learning” (Participant 111, 2nd year). Another added: “I use Babbel for conversation practice, which helps me follow course content and my teacher. It’s convenient on my phone since I can study anytime without needing a teacher” (Participant 80, 2nd year).

5.3.2.2 Duolingo

Duolingo (2025) delivers gamified, self-paced lessons. One participant explained: “Language applications are fun and useful for self-paced learning. I only tried a trial, but my friends find them valuable for English. I may subscribe if I have time and see improvement” (Participant 61, 2nd year). Duolingo (2025) was considered engaging for beginners but primarily as a supplementary tool.

5.3.3 Social Media Platforms

Social media platforms provided informal exposure to English, cultural insights, and peer interaction.

5.3.3.1 YouTube

YouTube (2025) offers authentic spoken English content. One learner explained: “I follow YouTubers to learn about life in different countries and cultures while improving my English with subtitles. Unlike my university courses, this style is relaxed, enjoyable, and without assessment” (Participant 1, 1st year). Another participant used travel content to supplement learning: “I can’t afford to study abroad, so I watch YouTube travel vloggers... I plan to keep learning from them while in Japan”

(Participant 27, 1st year).

5.3.3.2 Instagram

Instagram (2025) was used for social communication and language practice. Participants described sharing photos and practicing English through interactions with friends: “Instagram helps me stay in touch with my high school friends, and we practice English together. I hope we can keep using English for a long time” (Participant 114, 3rd year).

5.3.3.3 TikTok

TikTok (2025) provides short, engaging English content. Participants noted its suitability for limited attention spans: “Outside my undergraduate English study, I prefer TikTok’s short videos because my attention span is limited; in Japanese I can focus longer, but in English short media works best” (Participant 42, 2nd year).

5.3.3.4 LINE

LINE (2025) was valued for maintaining international connections: “I use LINE almost every hour I’m awake, mainly to chat and stay in touch with international friends I met while studying abroad through weekly calls and texts” (Participant 96, 2nd year).

5.3.3.5 X.com

X.com [formerly Twitter] (2025) provided learners with international news and perspectives: “Using X, I quickly learn about international events and news. Although I worry about fake news and struggle with my English, it gives me perspectives different from Japanese media” (Participant 57, 2nd year).

5.3.4 Summary

Participants preferred technology-based activities that supported communication, confidence, and personal relevance. Translation and writing platforms (ChatGPT [OpenAI], 2025; DeepL Translator, 2025; Google Translate, 2025; Grammarly, 2025; Weblio, 2025) were trusted for accuracy in both academic and communicative tasks. Interactive applications facilitated engagement and motivation, while social media and internet platforms allowed flexible integration of English learning into personal interests, cultural exploration, and professional development. Overall, technology was viewed as a versatile, adaptable resource that complemented both formal and informal English learning contexts.

5.4 Concerns or Worries about Using Technology for English Language Learning

The fourth research question asked: Do you have any concerns or worries about using technology for your English language learning? Participants’ responses highlighted several key concerns regarding the use of technology in both independent and classroom English learning (see Table 6).

Table 6

Number of Participants' Responses on Concerns or Worries about Technology Use in English Language Learning

Themes	Responses (<i>N</i> = 149)
Technology Anxiety	49
Techno-complexity	41
Initial Novelty Value	34
Distraction	20
Other	5

5.4.1 Technology Anxiety

Participants frequently reported feelings of anxiety when using unfamiliar software or platforms. Even learners confident with smartphones or PCs expressed concern when new tools were introduced. One participant shared: “I am good at using my smartphone and maybe my PC, but in our English courses different teachers use different software. It can be scary, and I even lose sleep thinking about it” (Participant 9, 1st year). Another reflected on time pressures: “Learning new skills is important for my future, but it takes time. If the technology is only used briefly, it feels like a waste” (Participant 125, 3rd year). A third learner highlighted challenges with independent use: “It is OK when the teacher is there, but outside class I often do not know what to do. Even with consultation hours, I feel stressed” (Participant 107, 1st year). Participants emphasized the need for consistent teacher guidance to reduce anxiety and promote confidence with new tools.

5.4.2 Techno-complexity

Learners also described the complexity of managing multiple applications and devices. One participant noted collective unease when teachers introduced new tasks: “When the teacher gives us a new task, there is a lot of talk and sometimes mild panic. It is OK when the teacher is expert, but difficult if they are still learning” (Participant 79, 2nd year). Hardware issues were also highlighted: “Some problems depend on each student’s computer. Older PCs tend to have more issues” (Participant 143, 1st year). Another participant expressed frustration with excessive tools: “One teacher used many applications in every lesson. That was too much. Moderation is needed” (Participant 15, 2nd year). These findings indicate that technical challenges can hinder learning unless tools are introduced thoughtfully and with sufficient support.

5.4.3 Initial Novelty Value

Some learners reported increased motivation when first encountering new technology. One participant described the initial excitement: “Every time we try new software there is excitement in the classroom. At the beginning, it is fun and I like to challenge myself” (Participant 35, 2nd year). Group activities were also seen to reduce stress: “New tasks create fun and, in groups, stress goes down and focus goes up” (Participant 44, 1st year). However, novelty effects often diminished over time:

“Energy wears off after some time. Everything in moderation, even games and quizzes” (Participant 20, 2nd year). This suggests that novelty can boost engagement but requires balanced implementation to sustain motivation.

5.4.4 Distraction

Participants reported that technology could serve as a source of distraction. One learner noted classroom distractions: “I can concentrate, but some classmates do other coursework or even online shopping instead of the task” (Participant 13, 1st year). Another described messaging interruptions: “Friends send me messages during class, and it is hard not to reply instantly” (Participant 67, 3rd year). A third mentioned social media use outside class: “At home or in the library, I waste time checking social media instead of studying” (Participant 118, 3rd year). These accounts highlight the importance of managing off-task behavior when using technology for learning.

5.4.5 Summary

Participants identified both opportunities and challenges associated with technology use in English learning. While new tools sometimes sparked motivation and engagement, they also generated anxiety, complexity, and potential distractions. Learners emphasized the importance of consistent teacher support, moderation in tool selection, and strategies to minimize stress and off-task behavior. Effective integration of technology, therefore, requires balancing novelty and innovation with stability, guidance, and practical support.

6. DISCUSSION

This study explored how tertiary-level L2 English learners perceive and use technology for language learning, highlighting both opportunities and challenges. By examining software, devices, activities, and concerns, the findings provide insight into learners’ engagement with computer-assisted language learning (CALL) and MALL digital tools within culturally specific educational contexts (Tanaka & Yamamoto, 2025). Together, these findings establish a foundation for understanding how learners navigate technology use within formal university language-learning environments.

Overall, learners demonstrated a combination of enthusiasm and anxiety toward technology. Students valued tools—such as ChatGPT (OpenAI, 2025), Google Translate (2025), Grammarly (2025), and YouTube (2025)—for enhancing efficiency, reducing stress, and supporting authentic engagement. These findings suggest that learners are more likely to adopt technologies perceived as both useful and accessible, supporting prior research on technology acceptance. Participants also highlighted that digital tools facilitate vocabulary development and improve confidence in language tasks, reinforcing the importance of selecting effective and engaging platforms. This balance between perceived benefits and usability underscores the importance of intentional tool selection in language learning contexts.

At the same time, learners expressed significant concerns about technology, including anxiety, complexity, and distraction. Even students familiar with smartphones

and PCs reported stress when using new software or platforms (Teng, 2024). This highlights the critical role of learners' technological self-efficacy and comfort in shaping their engagement with digital tools. Emotional responses such as anxiety and frustration can impede technology adoption, emphasizing the need for strategies that reduce these barriers (Shafiee Rad, 2025). Addressing these emotional and cognitive challenges is essential for supporting sustained learner engagement with educational technologies.

Device choice also emerged as an important factor in effective language learning. Smartphones were the most commonly used tools, offering convenience and flexibility, while PCs and tablets were essential for more complex tasks like writing assignments (Kupchyk & Litvinchuk, 2025). This demonstrates that accessibility and usability strongly influence learner preferences and engagement. Learners appreciated tools that integrated smoothly into their existing routines, particularly when mobile apps and AI technologies enhanced the learning experience. These preferences highlight the need to align instructional technologies with learners' everyday digital practices.

AI in language learning plays a dual role, supporting interactive practice and engagement while also presenting challenges such as overreliance and distraction. AI tools like ChatGPT (OpenAI, 2025) supported interactive practice, error correction, and confidence building (Yan & Zhang, 2024). While these tools enhanced engagement and motivation, concerns about overreliance, distraction, and declining novelty highlight the need for balanced use (Barrot, 2023). AI tools in CALL should complement rather than replace human instruction, serving as conversational agents that encourage interactive, real-time practice and reduce anxiety (Alrajhi, 2024). This duality suggests that thoughtful integration is key to maximizing the pedagogical value of AI in L2 learning.

In summary, the findings indicate that successful integration of technology in L2 English learning requires balancing accessibility, moderation, and learner support. Learners benefit from intuitive, relevant tools supported by guidance, while excessive complexity can generate anxiety and disengagement (Tanaka & Yamamoto, 2025). Educators must provide structured support, select user-friendly tools, and promote digital literacy to maximize learning outcomes (Mahmood, 2024). These considerations provide a bridge to the pedagogical implications discussed in the following section.

6.1 Pedagogical Implications

The findings suggest that effective technology use in language teaching depends on careful planning, consistent application, and alignment with learning objectives. Simple, accessible platforms motivate students, whereas excessive or constantly changing tools can cause confusion and disengagement (Balouchi & Samad, 2021). Providing clear instructions, guided practice, and peer support can reduce anxiety and help students engage meaningfully with CALL-based technology (Walisundura, 2020). These practices highlight the importance of instructional clarity and stability when integrating digital tools into language classrooms.

Teacher expertise with digital tools is equally crucial. Learners were discouraged when instructors lacked confidence, underscoring the importance of ongoing professional development (Chen, 2022). Well-trained teachers can anticipate challenges, maintain continuity, and integrate technology effectively. Digital well-being strategies,

including classroom policies and promoting self-regulation, are also essential to manage distractions from social media and messaging. Educators should foster a balanced approach to AI use, ensuring these tools supplement rather than replace traditional instruction (Meniado et al., 2024). Teacher preparedness thus plays a central role in shaping learners' perceptions and experiences with educational technology.

AI presents unique opportunities for personalized learning. AI tools like ChatGPT (OpenAI, 2025) provide immediate feedback and individualized pathways that can reduce anxiety. These platforms support self-regulated learning, helping learners monitor progress and develop autonomy in reading, writing, and comprehension tasks (Shafiee Rad, 2025). AI should be integrated into supportive learning environments where students can interact meaningfully with both instructors and technology (Yuen & Schlote, 2024). When embedded within pedagogically sound frameworks, AI can meaningfully enhance learner autonomy and confidence.

7. LIMITATIONS

While this study offers valuable insights, several limitations must be acknowledged. First, the cross-sectional design captures learners' perceptions at a single point, limiting understanding of how attitudes, confidence, and engagement evolve over time (Capili, 2021). Longitudinal studies would better reveal changes in learners' emotional, cognitive, and behavioral responses to technology (Shafiee Rad, 2025). Recognizing this limitation highlights the need for future research designs that capture developmental trends in technology use.

Second, reliance on self-reported data may introduce biases, although open-ended questions encouraged reflection and depth (Ahmad et al., 2019). Future research could triangulate surveys with classroom observations, usage analytics, or performance outcomes to gain a more complete picture of learners' experiences. Incorporating user-experience frameworks could enhance understanding of how learners interact with digital tools across contexts (Yuen & Schlote, 2024). Such methodological triangulation would strengthen the validity of future findings.

Third, the study sample was drawn from a single university, limiting generalizability (Mweshi & Sakyi, 2020). Future studies should include multiple institutions and diverse learner populations to capture variations in CALL-based technological readiness, preferences, and cultural expectations (Annet, 2024). Expanding the research context would allow for more robust cross-cultural comparisons.

Finally, although AI tools were frequently mentioned, ethical considerations, long-term reliance, and privacy concerns were not deeply explored (Alnsour et al., 2025). Future research should address these issues, examining both acceptance and critical engagement with AI, as well as cognitive load, motivation, and emotional well-being (Alrajhi, 2024). Addressing these concerns is essential for the responsible and sustainable use of AI in language education.

8. CONCLUSION

This study investigated tertiary-level L2 English learners' perceptions of technology, focusing on software, devices, activities, and related challenges. Learners valued accessibility, convenience, and motivation, while also reporting issues such as anxiety, distraction, and complexity. Smartphones emerged as the most versatile tool, while translation apps, AI, and social media supported both academic and informal learning. These findings highlight the multifaceted role of technology in contemporary L2 learning environments.

Teacher expertise, technological stability, and balanced integration were identified as key factors for effective technology use. AI tools, in particular, were shown to enhance engagement and performance when integrated thoughtfully into the curriculum. The findings highlight the importance of usability, relevance, and engagement, while cautioning against overreliance on AI and technical barriers. This balance underscores the need for pedagogically driven, rather than technology-driven, instructional decisions.

Although limited by a cross-sectional, single-institution design, this study contributes to understanding both the benefits and challenges of technology in L2 learning. Future research should track learner perceptions over time and explore strategies for sustained engagement with digital and AI-based tools. Integrating mobile apps and AI into educational systems in a supportive, structured manner is essential for maximizing long-term effectiveness. Ultimately, these insights can inform more effective, ethical, and learner-centered approaches to technology-enhanced language education.

DECLARATIONS

Data availability statement

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Disclosure of interest

The authors report there are no competing interests to declare.

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Ethical approval and informed consent statement

This research was performed in accordance with the principles stated in the Declaration of Helsinki. All participants provided written informed consent to participate in this study. This research was also approved by the research ethics committee at Tamagawa University, Japan.

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APPENDIX A

Collated Findings on Collaborative Learning Platforms and Student Experiences

Tool	Key Benefits	Representative Quotes
Padlet	Confidence, reflective practice, community building	“Padlet is a good way to communicate. ... The last weeks of our course, Padlet is now easy to say my meaning ... my enthusiasm to learn English grows” (Participant 77, 2nd year)
Google Classroom	Organization, accessibility, instructional scaffolding	“It was two weeks before I could understand well enough ... language learning and computer literacy are together as two parts of my study” (Participant 49, 1st year)
Book Creator	Creativity, group engagement, multimodal expression	“Sharing ideas with classmates made our storytelling fun ... next time, I want to try to make a Book Creator instruction manual” (Participant 10, 1st year)
Blackboard	Structured access, gradual familiarization	“The best teacher using Blackboard ... has the most clear category sections. The categories are similar to a signpost” (Participant 139, 2nd year)
Google Slides	Transferable skills, collaborative content creation	“I started first time in the English course and now use it for my other university courses ... I have confidence to use with PC or smartphone” (Participant 71, 1st year)

Note. These collaborative learning platforms were reported by participants as part of university English language-learning courses. Key benefits reflect participants’ perceived advantages, and quotes illustrate their personal experiences and reflections on using each tool.

APPENDIX B

Collated Findings on Preferred Technology Devices for English Language Learning

Device	Key Benefits	Representative Quotes
Smartphone	Portability, multifunctionality, communication, study efficiency	“I like submitting video homework with my smartphone because it’s quick and convenient. I use it more than any other tool and find it essential for my schoolwork” (Participant 109, 3rd year)
PC and Tablet	Functionality, adaptability, organized resource management	“Using my PC for learning English allows me to do classwork with attention to detail ... using a smartphone is a little messy” (Participant 73, 2nd year)
Earbuds, Earphones, Headphones	Focused listening practice, individualized study, engagement	“Every day before the lesson begins, I study English from my favorite songs. It is a private way to study without disturbing others” (Participant 98, 2nd year)
Smartwatch	Quick reference access, vocabulary support, convenience	“My Apple Watch is so accessible. I quickly check translation and continue with class” (Participant 19, 1st year)
Other	Specialized tools, varied use cases	“I use a digital pen and tablet combination for writing exercises” (Participant 40, 1st year)

Note. These devices were reported by participants as preferred tools for university English language-learning activities. Key benefits summarize the functional and strategic advantages noted, while quotes illustrate learners’ experiences and perceptions of each device.

APPENDIX C

Collated Findings on Technology-Based Activities for English Language Learning

Activity / Tool	Key Benefits	Representative Quotes
Translation and Dictionary Support	Rapid vocabulary access, comprehension, academic communication	“I use Google Translate to convert Japanese into English when I need time to think before speaking with my teacher. I have used it for over a year at university” (Participant 115, 2nd year)
Google Translate	Convenience, supports speaking and writing	“My main goal in language learning is to communicate effectively with my teacher, and Google Translate helps me do this confidently” (Participant 63, 3rd year)
Weblio	Trusted, bilingual dictionary and encyclopedia support	“I have used Weblio since high school ... I am comfortable with Weblio and prefer not to change” (Participant 3, 1st year)
DeepL Translator	Natural translations, reduces anxiety, improves writing	“It eases my anxiety, improves word choice, and is essential to my studies” (Participant 52, 2nd year)
Grammarly	Grammar checking, writing support	“I like Grammarly for grammar checks and natural-sounding suggestions, but I don’t want a subscription because I only use it occasionally for essays” (Participant 34, 2nd year)
ChatGPT (OpenAI)	Interactive practice, confidence building	“Using ChatGPT to study individually ... helps me practice verbal English, build confidence, and think more freely in English” (Participant 99, 2nd year)
Language Learning Applications	Structured practice, gamification, flexibility	“Using the Babbel app, I learn more vocabulary and practise grammar beyond what I do in my English courses” (Participant 111, 2nd year)
Babbel	Vocabulary, grammar, conversation practice	“I use Babbel for conversation practice, which helps me follow course content and my teacher” (Participant 80, 2nd year)
Duolingo	Gamified, self-paced learning	“Language applications are fun and useful for self-paced learning ... I may subscribe if I have time” (Participant 61, 2nd year)

Social Media Platforms	Informal learning, cultural exposure, peer interaction	“I follow YouTubers to learn about life in different countries and cultures while improving my English with subtitles” (Participant 1, 1st year)
YouTube	Authentic spoken English, cultural content	“I can’t afford to study abroad, so I watch YouTube travel vloggers ... I plan to keep learning from them while in Japan” (Participant 27, 1st year)
Instagram	Peer interaction, language practice	“Instagram helps me stay in touch with my high school friends, and we practice English together” (Participant 114, 3rd year)
TikTok	Short-form content, attention span-friendly	“Outside my undergraduate English study, I prefer TikTok’s short videos because my attention span is limited” (Participant X)
LINE	Maintaining international connections	“I use LINE almost every hour I’m awake, mainly to chat and stay in touch with international friends” (Participant 96, 2nd year)
X.com [formerly Twitter]	News, international perspectives	“Using X, I quickly learn about international events and news ... it gives me perspectives different from Japanese media” (Participant 57, 2nd year)

Note. These activities were reported by participants as preferred technology-based methods for English language learning. Key benefits summarize the functional and strategic advantages noted, while quotes illustrate learners’ experiences and perceptions of each activity or platform.

APPENDIX D

Collated Findings on Concerns or Worries about Technology Use in English Language Learning

Concern / Theme	Key Issues Highlighted	Representative Quotes
Technology Anxiety	Stress when using unfamiliar software; need for teacher guidance	"I am good at using my smartphone and maybe my PC, but ... different teachers use different software. It can be scary, and I even lose sleep thinking about it" (Participant 9, 1st year)
	Time pressures and difficulty with independent use	"Learning new skills is important for my future, but it takes time. If the technology is only used briefly, it feels like a waste" (Participant 125, 3rd year)
Techno-complexity	Complexity managing multiple applications/ devices; hardware limitations	"One teacher used many applications in every lesson. That was too much. Moderation is needed" (Participant 15, 2nd year)
	Dependence on teacher proficiency	"When the teacher gives us a new task, there is a lot of talk and sometimes mild panic. It is OK when the teacher is expert, but difficult if they are still learning" (Participant 79, 2nd year)
Initial Novelty Value	Excitement and motivation when encountering new technology	"Every time we try new software there is excitement in the classroom. At the beginning, it is fun and I like to challenge myself" (Participant 35, 2nd year)
	Novelty effects may diminish over time	"Energy wears off after some time. Everything in moderation, even games and quizzes" (Participant 20, 2nd year)
Distraction	Off-task behavior, messaging interruptions, social media use	"Friends send me messages during class, and it is hard not to reply instantly" (Participant 67, 3rd year)
	Classroom and study environment distractions	"At home or in the library, I waste time checking social media instead of studying" (Participant 118, 3rd year)
Other Concerns	Technical issues, connectivity problems	"Sometimes internet connection issues interrupt my learning" (Participant 143, 1st year)

Note. These concerns were reported by participants regarding technology use in English language learning. Key issues summarize the primary challenges identified, while representative quotes illustrate learners' perceptions and experiences related to anxiety, complexity, novelty, distraction, and other practical concerns.