

English Language Teachers' Awareness and Practice of Digital Teaching

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Abstract

Raising English language teachers' awareness and practice of digital teaching is essential for creating interactive, engaging, and effective learning environments that cater to the diverse needs and interests of students. This study aims to explore the digital teaching awareness of secondary level English teachers and the technology-driven activities implemented in their classrooms. Employing a qualitative approach within the narrative inquiry framework, data was gathered from 12 secondary level English teachers through semi-structured interviews, direct observations, and document analysis. The results reveal that secondary level English teachers in Nepal develop their digital teaching skills and knowledge by engaging in professional development programs, including workshops, seminars, and conferences, as well as through self-directed learning from online platforms like YouTube. Additionally, they enhance their digital teaching strategies by utilizing social media platforms such as Facebook, WhatsApp, and Instagram, along with web-based tools. These findings provide valuable insights and resources for English teachers, which can be applied in the classroom to promote interactive, technology-enhanced learning and teaching activities. Furthermore, the results can inform policymakers at educational institutions to ensure the efficacy of digital language learning practices.

Keywords: *Digital teaching applications, English teachers, Pedagogical strategies, Web based platforms*

INTRODUCTION

The expansion of Information Communication and Technology (ICT) has significantly influenced the pedagogical landscape of the twenty-first century. The rapid progression of ICT necessitates an examination of its educational applications, which is essential for enhancing the effectiveness of learning and teaching methodologies (Fu, 2013). Contemporary educational objectives extend beyond imparting knowledge and skills; they also aim to cultivate professional trajectories for learners, a principle that has been upheld across generations (Hu, Yuan, Luo, & Wang, 2021). In today's technologically driven society, familiarity with various technological tools is virtually a prerequisite for employment (McKinsey & Company, 2017). Education serves as a critical platform where individuals can acquire technical knowledge and expertise (National Academy of Sciences, 2017). Consequently, understanding the role of technology in everyday life, particularly within educational contexts, is paramount (Bing, 2020). It is imperative for teachers, especially those teaching foreign languages, to possess foundational technical knowledge (Asian Institute of Management, 2019). This understanding empowers teachers to create innovative and impactful instructional activities, thereby nurturing the development of their students' abilities and competencies (Brookings Institution, 2020).

Awareness encompasses the concepts of consciousness, knowledge, information, and vigilance. It is defined as the ability to recognize the existence of something and to comprehend it through knowledge or experience (Marín et al., 2022). In the educational domain, teacher awareness is commonly understood to be shaped by three primary factors: experience, resources, and beliefs (Kim, 2023). Teachers' awareness can grow through experiential learning activities, sharing insights with peers, and engaging in professional development programs (Weyers et al., 2023). Additionally, resources such as textbooks and workshops, along with formal education, can enhance teachers' awareness (Abdioğlu et al., 2021). Beliefs also play a crucial role, influencing teachers' consciousness regarding various subject matters (Scribbr, n.d.).

It is intriguing to explore teachers' awareness of digital instruction and associated behaviors within English language teaching (ELT). As digital teaching competencies and technologically delivered education gain prominence, aiding English as a Foreign Language (EFL) teachers in understanding technology's role in ELT presents a significant opportunity. Given that students today are often referred to as "digital natives," it is crucial for teachers to possess a robust grasp of effective technology use in classrooms. Hinojo Lucena et al. (2020) suggests that teachers need to develop suitable beliefs and attitudes towards the use of technology to support language instruction. Essentially, a teacher's awareness is shaped by their beliefs, which in turn guide their instructional decisions (Nugroho & Mutiaraningrum, 2020; Zheng & Borg, 2014). Investigating teachers' beliefs and attitudes towards digital technology is vital for enhancing their technical awareness, particularly in language acquisition contexts (Mohsenishad et al., 2020).

ELT research has recognized the advantages of technology-enhanced language learning, as evidenced by previous studies (Amin & Sundari, 2020; Khalitova & Gimaletdinova, 2016; Knowles et al., 2018; Nartiningrum & Nugroho, 2021; Zhang, 2020). Such technology has been found to significantly contribute to the effectiveness of teaching and learning, offering enriching experiences for language learners. The instruction of second and foreign languages now frequently incorporates various digital technologies (Chen Hsieh et al., 2017; Lee, 2019). Lee and Drajati (2019) and Sundqvist and Sylvén (2016) have highlighted that informal digital learning affords plentiful opportunities for learners to enhance both their productive and receptive language skills. Slim and Hafedh (2019) also examined the social aspects of digital learning.

In the context of technology integration in English language teaching, teachers' digital awareness is critical. It involves understanding the educational potential of technology and the appropriate application of technological tools to improve the effectiveness of teaching and learning. Digital awareness among teachers includes recognizing the importance of technology in contemporary human activities and its widespread acceptance in all aspects of life (Timotheou et al., 2023). It also entails the ability to identify and understand the use of technology to enhance classroom efficiency and to foster engaging learning environments for English as a Foreign Language (EFL) students (Msafiri et al., 2023). The technical aspect of awareness is directly linked to the technological tools and methods employed in educational tasks and activities (Granić, 2022). This multifaceted awareness is essential for teachers to navigate the evolving landscape of technology in education effectively (Akram et al., 2022).

Recent studies have highlighted the potential of blogs and websites to enhance language learners' reading and writing skills (Godwin-Jones, 2016; Sun & Chang, 2012). The utilization of these digital platforms has been shown to provide students with opportunities to practice English writing beyond the confines of a traditional classroom. Yang and Chen (2007) also indicates that

students view the use of weblogs in education favorably, citing benefits such as increased engagement and motivation to learn English due to interactive elements and prompt feedback from teachers and peers. Furthermore, gamification has been identified as an effective approach to support language learning, complementing the use of websites and blogs (Kapp, 2012; Deterding et al., 2011; Hamari et al., 2016).

While previous research has primarily focused on the benefits of technology integration in language education (Godwin-Jones, 2016; Kapp, 2012; Jung, 2006; Hockly, 2011; Warschauer & Meskill, 2000), this study aims to explore the extent of secondary level English teachers' awareness of technology integration and how they can enhance this awareness. Classroom activities that incorporate creativity and technology are instrumental in developing this awareness. Therefore, this study seeks to depict how secondary level English teachers are implementing digital technology in English language teaching.

This study focuses on two main research questions to ensure it meets its goals. The first question looks at how secondary level English teachers teach and raise awareness about using technology in English language learning. The second question investigates how these teachers include tech-based activities in their English classes. The findings provide valuable information and serve as a guide to the digital teaching skills of secondary level English teachers in Nepal.

METHOD

Design

This study employed a qualitative narrative inquiry approach to capture the perspectives of secondary level English Language teachers. This method is particularly effective in exploring the lived experiences and challenges in language instruction (Tiwari, 2022). It was selected for its aptness in examining the participants' stories about their development and implementation of digital teaching skills, aligning with the objective of the research.

Participants

The participants of the study consisted of 12 secondary level English teachers who have been teaching English at community schools in Nepalgunj Sub- Metropolitan City, Banke district, Nepal. The teachers were meticulously chosen for their expertise in teaching English for secondary level, their proactive use of technology in their teaching methods and their substantial experience of at least three years in the field. Their participation was confirmed through a consent form. To preserve anonymity and for ease of reference in the study, each teacher was assigned a code from T1 to T12.

Instrument

Data were collected through semi-structured interviews and classroom observations. Interviews included questions such as the degree to which technology can help with language learning, participants' ability to utilize technology from basic to advanced levels, their methods for increasing knowledge of digital technology integration in language learning, and how they use various forms of digital instruction in their English classrooms. Follow-up questions were asked based on initial secondary level English teachers to understand participants' awareness and practices regarding digital teaching competency. Interviews were conducted in English and were divided into three parts. The first interview i.e. pre-interview assessed prior knowledge of

technology in language learning. The second stage involved observing teaching practices to verify initial data. The third stage involved post-interview which took place after assessing learning outcomes. Comprehensive audio recordings were made for all the interviews. The pre-interview commenced on the 5th of October, 2023, and concluded on the 19th of October, 2023. These interviews were executed utilizing a direct, interpersonal approach.

Methodical participatory observations were systematically carried out to elucidate the data obtained from interviews, with a particular emphasis on the utilization of digital technology within pedagogical practices. Observations were conducted twice for each teacher's class. Comprehensive records were meticulously kept, including observation sheets and detailed documentation of the classroom proceedings. The researchers maintained a non-participatory role during the educational activities. The period of classroom observation spanned from the 20th of November, 2023, to the 22nd of December, 2023.

Subsequent to the classroom observation phase, the post-interview process was initiated on January 10, 2024, and completed on January 29, 2024. Throughout this interval, exhaustive dialogues were engaged with the study participants, facilitating an enriched comprehension of their individual experiences, viewpoints, and discernments regarding the implementation of digital teaching. Post-interviews were also conducted in English language in face to face mode and audio recorded using an audio recorder for subsequent data analysis.

Data Analysis

In the course of data analysis, audio recordings were transcribed with precision, capturing every utterance to preserve the integrity of the spoken word. Those transcripts were then subjected to member checks to confirm their veracity and exactness. In parallel, data from classroom observations were meticulously refined to ensure their thoroughness and dependability. The final data was prepared by the amalgamation of these two distinct datasets. The data analysis utilized a thematic approach. Initially, the data underwent repetitive readings to ensure thorough comprehension. Subsequently, the collected data underwent a sorting process to extract pertinent information aligned with the research inquiries. Following this, the data underwent coding and classification. Information derived from semi-structured interviews, observations, and documentation was systematically coded and organized into categories reflective of the study's focal points: teacher awareness and practices concerning digital technology integration in language learning activities. Lastly, thematic headings were employed to synthesize the coded data. Participants' views were grouped based on recurring themes, forming the foundation for drawing conclusions.

FINDINGS AND DISCUSSIONS

Findings

English Teachers' Technology Awareness

The research highlights that secondary level English teachers demonstrate a notable awareness of the critical role technology plays in enhancing English language teaching and learning. This awareness is evident in their understanding of the current state of digital technology and its potential to make language classroom activities more effective. During the semi-structured interviews, participants consistently expressed the belief that the proper use of digital technology presents vast opportunities for developing linguistic abilities and enhancing both formal and

informal modes of language acquisition. For instance, T7 discussed the significant ways in which digital technology has improved language learners' abilities and learning experiences:

“It is essential to incorporate technology into educational settings, including foreign language study. Learners benefit immensely by engaging in more activities through various online mediums such as social media, websites, and gamification. Additionally, the use of technology boosts their self-assurance and encourages independent study.” (T7)

However, this general awareness of the importance of technology in language learning is prevalent among secondary level English teachers, the study revealed a significant gap in the depth of their technological engagement. This gap points to the need for further development in two specific areas: the exploration of advanced digital tools and the enhancement of digital teaching awareness.

Limited Exploration of Advanced Digital Tools

Although the majority of the participants suggested that digital technology holds substantial potential for improving the efficiency of language teaching, the study also revealed that many teachers were not familiar with a broad range of digital tools beyond those typically used in their classrooms. While they were acquainted with conventional digital learning applications such as Google Classroom, Zoom, and various social media platforms, they had not explored additional digital learning applications like Duolingo, Rosetta Stone, Babbel, Memrise and Busuu. Participants mentioned that there had been some usage of technology in their class. They explained that due to the necessity of teaching in an online environment during the pandemic, they had to use various forms of technology, including Google Classroom, Google Meet, and Zoom. T1 stated that he limited himself to using only these common online learning resources, which were also utilized by his colleagues. He further added that he had never ventured to use other forms of online media or applications in their courses. In a similar way, T9 also shared his perspectives in the following way.

“There was some usage of technology in my class. Because I needed to teach in an online environment during the pandemic, I had to use various forms of technology, such as Google Classroom, Google Meet, and Zoom. I limited myself to using only these common online learning resources, which are also utilized by my colleagues. I never ventured to use other forms of online media or applications in my courses” (T9).

The majority of the participants stated that they certainly made use of several technological tools in their classrooms. However, they primarily relied on Google Meet and Zoom for online conferences instead of opting for more advanced technological solutions. Occasionally, they also used social media platforms like Facebook and Instagram to assist with collecting students' assignments. They mentioned that they rarely tried other online learning tools because they found these two platforms more comfortable to use. Additionally, they expressed that these tools were convenient and easy to access. Furthermore, they mentioned using Google Classroom and social media to enhance the dynamism and interest of their teaching activities for their students. This limited exploration of advanced digital tools highlights the necessity for English teachers to expand their technological horizons. The reluctance to venture beyond familiar tools suggests a superficial engagement with digital technology, driven more by necessity than by a deep-seated understanding

or enthusiasm for its possibilities. This underscores the importance of targeted efforts aimed at developing their digital teaching awareness, which involves both formal professional development and informal personal training.

Development of Digital Teaching Awareness

To bridge the gap identified in their use of technology, secondary level English teachers need to develop a deeper digital teaching awareness. The findings from the semi-structured interviews revealed that professional teacher development trainings and personal training are the two main efforts that teachers make to enhance their digital teaching competence. Most participants indicated that they improved their knowledge and skills in using digital technology for language learning by attending professional training organized by formal institutions such as universities and language study centers. They participated in seminars and conferences on technology-enhanced language learning, which were mostly held online during the COVID-19 pandemic. Secondary level English teachers recognizing the need to enhance their digital teaching skills, they admitted that they seldom applied the newly acquired knowledge in their actual online classroom sessions.

“Participating in seminars and workshops organized by various institutions, such as universities and language study centers, helps me enhance my understanding and awareness of the role digital technology plays in language teaching. The majority of these training activities are hosted online during the pandemic, making it easier for us to participate and expand our knowledge and capabilities in digital instruction.” (T11)

“Professional training offered by academic institutions or language study centers is essential. Finding workshops that focus on using technology to enhance language learning is not difficult. This convenience increases my willingness to participate, as these activities are beneficial and do not require a significant financial investment.” (T4)

“I frequently attend professional development opportunities such as seminars and conferences focusing on technology. These events provide substantial information and new perspectives on using technology in teaching, including tools like Piktochart, Quizziz, Fubrain and Edmodo. However, I rarely put this knowledge into practice in my classroom activities, as I prefer using video conferencing tools like Zoom and Google Meet.” (T3)

By participating in these professional development opportunities, English teachers can gain a broader and more nuanced understanding of the digital tools available to them. However, the application of this knowledge in the classroom remains limited. This suggests a need for further support and encouragement for teachers to integrate new technologies into their teaching practices. Additionally, personal training and informal learning play a significant role in developing digital teaching awareness.

Personal Training and Informal Learning

In addition to professional training, most of the participants mentioned improving their digital teaching skills and awareness through personal training conducted in informal settings. Participants continued to practice and expand their knowledge during their free time after enrolling

in professional training programs. They viewed personal training as an alternative method to enhance their digital teaching competence. However, they admitted that due to the time demands of teaching preparation, they had not implemented this knowledge extensively in their classrooms. Thus, video conferencing programs remained the most efficient approach for their online teaching activities. For instance, the following interview excerpts illustrate the varied experiences and challenges encountered by teachers in their efforts to improve their digital teaching skills. These excerpts provide valuable insights into the strategies teachers employ, the obstacles they face, and their aspirations for integrating technology more effectively into their teaching practice.

“I participate in seminars and workshops on technology-enhanced language learning, and I practice the skills and knowledge I acquire through personal training during my free time. This is an effective method for improving my digital teaching abilities. Unfortunately, I did not have enough time to prepare teaching materials, so I only used it sparingly in my online classes this semester. I plan to integrate technology more fully next term.” (T11)

“I enjoy engaging in personal training to enhance my digital teaching skills. I often watch YouTube tutorials on using digital tools like gamification, Kahoot, and Quizziz in English study. Although I use them occasionally in my online classes, the preparation takes significant effort, so only a few students benefit from them.” (T8)

“My father has been a great resource during the pandemic, helping me learn to use various digital platforms effectively. However, I have only used this knowledge sporadically in my classroom so far. I plan to incorporate it more thoroughly in the next academic year.” (T10)

Thus, both professional and personal training efforts are crucial in enhancing digital teaching awareness among secondary level English teachers. By expanding their use of advanced digital tools and engaging in continuous learning, they can better leverage technology to enhance language acquisition. This interconnected approach ensures that teachers not only understand the importance of technology in language learning but also have the practical skills and confidence to implement it effectively in their classrooms.

English Teachers' Technology Implementation Practices

This research reveals significant insights into the practices of secondary level English teachers in Nepal regarding the implementation of technology for language study. The study identifies that some participants utilized a variety of digital technology platforms beyond the predominantly used video conferencing tools to enhance the effectiveness and creativity of their online learning activities. The following themes emerged from the classroom observation and semi-structured post-interviews conducted with the participants.

Use of Social Networking Sites and Web-based Resources

The study found that to support their online teaching activities, majority of the participants employed social networking sites such as Instagram, WhatsApp, Facebook, and YouTube, alongside web-based resources like Duolingo, Canva, Rosetta Stone, Babbel, Kahoot, Memrise, Busuu and Edmodo. This approach facilitated the creation of interactive and engaging online classroom environments. The primary focus of this study is on the development of teachers'

awareness of digital teaching and how they leverage various digital technology platforms to foster creativity and interactivity in their online classrooms. Increasing teachers' understanding of the benefits of digital education is identified as an essential objective. Following narratives articulated by the participants clearly illustrate this theme.

"Using social media platforms like Instagram and WhatsApp has significantly transformed my teaching approach. I create short, engaging videos on Instagram to explain complex concepts, and use WhatsApp groups for real-time discussions and Q&A sessions with my students. Additionally, integrating tools like Duolingo and Kahoot has made learning more interactive and fun for my students. These digital resources have not only helped me keep students engaged but also allowed me to personalize learning experiences and track their progress effectively." (T9)
"Facebook and YouTube have been game changers for my online classes. I upload tutorial videos on YouTube, which my students can access anytime, and use Facebook groups to create a community where students can share their work and collaborate on projects. Moreover, platforms like Canva and Edmodo have been invaluable for designing visually appealing lessons and managing classroom activities. These tools have enabled me to create a dynamic and interactive online learning environment, fostering creativity and engagement among my students." (T2)

The study highlights the vital role of social networking sites and web-based resources in enhancing online teaching. Platforms like Instagram, WhatsApp, Facebook, YouTube, Duolingo, Canva, and Edmodo have enabled teachers to create interactive and engaging classrooms. These tools not only improve the learning experience but also enhance teachers' digital literacy and teaching strategies. Participants' narratives illustrate how these technologies foster creativity and interactivity, emphasizing the importance of increasing teachers' understanding of digital education to cultivate dynamic and effective online learning environments.

Use of Facebook for Classroom Activities

The interview findings also indicated that Facebook could be a valuable social media platform for supporting online teaching and learning activities. Virtually all students are avid mobile phone users, and Facebook is a commonly used application. T4 and T12 recounted using Facebook to administer online classroom activities. They created a Facebook page to foster an online classroom community, requiring students to establish a new email account to join. This platform facilitated communication through online chat and ongoing topical discussions, with access to a variety of learning resources, including videos, articles, and PDF files.

"I conduct some of my teaching and learning activities through Facebook. I encourage my students to create new Facebook accounts and join an online community on a Facebook page. I provide educational resources like images, videos, and PDFs, and we discuss various topics within the group." (T4)

"I use Facebook for educational purposes. I create a group similar to WhatsApp and share learning materials. We then discuss the content within the group." (T12)

The interview findings indicate that Facebook is a valuable platform for supporting online teaching and learning activities. Teachers like T4 and T12 effectively use Facebook to create online classroom communities, facilitating communication and providing access to diverse

educational resources. This approach leverages students' familiarity with the platform to enhance engagement and interactive learning.

Utilization of Web-based Platforms

In addition to social networking sites, very few participants utilized web-based platforms such as web-blogs, Prezi, Edmodo, and Powtoon. T6, for example, used Edmodo crate content related to the topics discussed, finding it an engaging tool for students. He also used Prezi and Powtoon for various educational activities. Similarly, T9 employed web-blogs to enhance writing practice, noting increased student interest and participation.

"I administer a quiz at the beginning of each meeting to assess students' understanding of the topic. Kahoot makes it easier and more engaging. Occasionally, I use Edmodo for different instructional activities. I enjoy experimenting with various digital platforms." (T6)

"I have been using Google Keep for writing practice. When we have a writing assignment, I ask students to create or contribute to a web-blog, writing about characterization, opinions, and similar topics." (T9)

The study highlights the effective use of both social networking sites and web-based platforms in enhancing online teaching. Participants like T6 and T9 utilized tools such as Edmodo, Prezi, Powtoon, and web-blogs to create engaging and interactive learning experiences. These platforms facilitated diverse educational activities, from quizzes and writing practice to content creation, illustrating the potential of digital technologies in fostering student interest and participation. This underscores the importance of leveraging various digital tools to cultivate dynamic and effective online learning environments.

Discussion

The findings of the study on the awareness of technology among secondary level English teachers in Nepal shed light on the teachers' recognition of the significance of technology in language learning. While the participants demonstrated an understanding of the potential benefits of technology in language acquisition, the study also revealed a gap in their depth of engagement with digital tools. The study indicates that Nepalese ESOL teachers have a strong awareness of the role technology plays in language learning. Participants acknowledged the importance of incorporating digital tools to enhance language learning, both formally and informally. They recognized the value of online mediums such as social media, websites, and gamification in improving learners' abilities and experiences. These findings align with previous research highlighting the positive impact of technology on language learning outcomes (Hampel & Stickler, 2005; Stockwell, 2010). The study found that many teachers had only explored basic digital tools commonly used in their classrooms, such as video conferencing platforms and social media. They showed reluctance to venture into more advanced technologies for language teaching. This finding is consistent with the notion that teachers often rely on familiar tools and may resist adopting new technologies due to perceived barriers such as lack of time or training (Kong, 2014; Wang, 2017). The gap in exploration of advanced digital tools suggests a need for targeted professional development to enhance teachers' technological competencies (Levy, 2009).

The study highlights the importance of professional development in enhancing digital teaching awareness among secondary level English teachers. Participants reported attending

workshops and seminars on technology-enhanced language learning, primarily offered by academic institutions and language study centers. While these opportunities provided valuable insights into digital tools and strategies, there was limited application of this knowledge in actual teaching contexts. This finding underscores the need for more effective strategies to bridge the gap between knowledge acquisition and implementation (Hubbard & Levy, 2006). In addition to formal professional development, some teachers engaged in personal training and informal learning to enhance their digital teaching skills. They sought resources such as YouTube tutorials and received support from colleagues or family members. However, time constraints and competing demands often hindered the integration of new technologies into teaching practices. This highlights the importance of ongoing support and encouragement to sustain teachers' motivation and confidence in using technology (Kereluik et al., 2013).

The study identified various practices among secondary level English teachers in Nepal regarding the implementation of technology for language study. While some teachers relied on conventional tools like video conferencing platforms, others demonstrated creativity by utilizing a diverse range of digital technology platforms. Social networking sites such as Facebook were utilized for creating online classroom communities and facilitating communication, while web-based resources like Kahoot and web-blogs enhanced engagement and interaction. These practices reflect a blend of pedagogical innovation and resourcefulness in leveraging technology to support language learning (Chen & Hsu, 2008). Comparing the findings of this study with existing literature reveals both similarities and differences. Similar to previous research, the study emphasizes the importance of technology in language education and the need for teacher training to effectively integrate digital tools into teaching practices (Chen & Hsu, 2008; Hampel & Stickler, 2005). However, the study also highlights specific challenges faced by secondary level English teachers, such as limited access to advanced digital tools and time constraints, which may be influenced by contextual factors unique to Nepal's educational landscape.

CONCLUSION

The findings of this study illuminate the recognition among secondary level English teachers of the critical role that technology plays in language learning. The participants exhibited a comprehensive understanding of the ways in which digital tools can foster English language learning, both within formal educational frameworks and via informal learning channels. Nonetheless, there exists a notable disparity in the utilization of sophisticated digital tools. A considerable number of teachers were confined to employing elementary platforms, such as video conferencing and social media, suggesting an imperative for more in-depth exploration and proficiency in this domain. To address this discrepancy, it is recommended that concerted efforts be directed towards augmenting the digital pedagogical competencies of teachers through specialized professional development and individualized training programs. Engaging in workshops and seminars has yielded insights; however, the translation of these insights into practical teaching scenarios has been minimal. Hence, sustained support and motivation are essential to ensure the effective assimilation of innovative technologies into educational practices.

Implications of this study extend to the varied approaches employed by secondary level English teachers in Nepal in integrating technology into language education. While some adhered to traditional methods, others exhibited ingenuity in harnessing an array of digital resources. These varied practices signify a fusion of educational creativity and adaptability, highlighting the

necessity of tailoring technological applications to cater to the multifaceted requirements of language learners. It is recommended that a framework be established to guide teachers in the selection and application of digital tools, fostering an environment conducive to pedagogical advancement and learner engagement. This framework should also include mechanisms for continuous evaluation and feedback, enabling teachers to refine their technological integration strategies in alignment with evolving educational landscapes.

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