

**Research Paper****Transformative Applications of Technology in English Language Education:  
A literature Review over the Last Two Decades**

Atousa Mirzapour Kouhdasht

M.A. Student in TEFL, Razi University, Kermanshah, Iran. [atousamirzapour@gamil.com](mailto:atousamirzapour@gamil.com)**Abstract**

This review article explores the transformative role of technology in English language teaching (ELT) by reviewing the relevant previously published literature over the past two decades. It provides an in-depth analysis of the impact of technology on various aspects of ELT, including language learning, teaching methodologies, assessment practices, learner autonomy, and teacher professional development. The article synthesizes current research and highlights the potential benefits and challenges associated with integrating technology into the language learning environment. The findings of the study revealed that technology-assisted language learning methods have positively impacted language learning outcomes. Computer-assisted language learning (CALL) has been shown to enhance language acquisition, particularly in areas such as vocabulary acquisition and grammar proficiency. Mobile-assisted language learning (MALL) has been found to improve learner autonomy and engagement due to its accessibility. Studies have shown that gamification would increase learner motivation and engagement by providing an interactive and enjoyable learning experience. Virtual reality offers immersive and authentic language learning experiences, enhancing learners' speaking and listening skills. Lastly, artificial intelligence has shown promise in providing personalized and adaptive language learning experiences, with chatbots being effective tools for language practice and feedback. Chatbots differentiate themselves from existing tools by leveraging AI technology, providing human-like interaction, offering accessibility, delivering personalized feedback, and being user-friendly, used by teachers and students to improve language skills. By incorporating these technological approaches into their teaching practice, English language teachers can create dynamic and interactive learning environments, promote learner autonomy, and enhance language acquisition outcomes.

**Keywords:**

Technology-enhanced language learning, English language teaching, Educational technology, Pedagogical innovation

\*Corresponding Author: Atousa Mirzapour Kouhdasht  
M.A. Student in TEFL, Razi University, Kermanshah, Iran

Email: [atousamirzapour@gamil.com](mailto:atousamirzapour@gamil.com)

## Introduction

In today's digital age, technology has permeated nearly every aspect of our lives, including the field of education. English Language Teaching (ELT) is no exception, as technology has emerged as a transformative force in language learning and instruction. The integration of technology in ELT has revolutionized traditional teaching methodologies, created new avenues for language acquisition, and empowered learners and educators alike. (Nguyen & Elliott, 2019)

The rapid advancement of technology has provided unprecedented opportunities for language learners to engage with English in innovative and immersive ways. Traditional language learning resources, such as textbooks and worksheets, have been complemented and, in many cases, replaced by interactive software, online platforms, mobile applications, and virtual reality tools. These technological advancements have not only enhanced language acquisition but also sparked a paradigm shift in the way English is taught and learned.

Computer-Assisted Language Learning (CALL) has played a pivotal role in leveraging technology to support language learning (Levy, 2016). CALL encompasses a wide range of computer-based tools and resources designed to facilitate language acquisition. Learners now have access to interactive software, online courses, and language learning websites that provide engaging and personalized learning experiences. Nowadays, Educators face an increase in the number of students using mobile technology to learn foreign languages outside of the curriculum. They use mobile devices to have access to applications such as YouTube. It allows the student to have an opportunity to create a self-directed way of learning (Lai et al., 2022).

Ebadi and Ebadijalal (2022) did a study with 20 upper-intermediate EFL learners divided into experimental and control groups. The experimental group utilized the Google Expeditions VR tool while role-playing as museum guides, whereas the control group did not use the VR tool. They believe that VR puts users, in this case, learners, in a real-world simulated environment; therefore, they can communicate in a virtual context with virtual objects. The quantitative results indicated that there was a significant difference between the experimental group and the control group in terms of oral performance, with the experimental group showing higher levels of performance. Additionally, the experimental group demonstrated a greater willingness to communicate by the end of the study. (Ebadi & Ebadijalal, 2022; Ghanbarzadeh et al., 2014). According to Ebadi and Ebadijalal (2022), educators have widely used virtual reality in language learning contexts due to its interactive, immersive nature and significant potential.

Gamification, another technological innovation, has transformed language learning by incorporating game elements into educational contexts. Gamified language learning platforms and applications motivate learners through rewards, challenges, and interactive quizzes, making the language learning process engaging and enjoyable.

Chatbots have been around for decades, but modern ones supported by artificial intelligence are popular now. Different studies investigated the impact of chatbots on learners' language skills development in EFL university classrooms. These empirical studies, with an average number of 96 participants in each study, indicate that the application of chatbots in EFL teaching and learning had a positive impact on the development of learner's language skills (Klímová & Ibna Seraj, 2023). However, Mohamed (2023) has conducted research with 10 faculty members at Northern Border University, indicating that university educators have different opinions about using AI-based language models in EFL classrooms. Some believe that using ChatGPT as an AI-based language model could be advantageous because it is accessible anywhere and anytime and offers personalized learning and immediate feedback. Others believe that the disadvantages of using ChatGPT in EFL classrooms, such as the lack of human interaction, could be more destructive. The prominent concerns are the overdependence of the students and the risk of losing critical thinking.

The integration of technology in ELT not only benefits language learners but also empowers educators to adopt innovative and learner-centered teaching methodologies. Online platforms, learning management systems, and video conferencing tools facilitate blended learning approaches, enabling educators to combine face-to-face instruction with online resources and activities. The flipped classroom model, where learners access instructional materials and engage in activities outside of class, has gained traction with the support of technology. Furthermore, technology-driven assessment practices, such as online assessments and automated feedback systems, provide more efficient and accurate evaluation of learners' language proficiency levels. It will also help the teachers to spend more time on significant parts, such as lesson plans.

Despite the numerous benefits, the integration of technology in ELT is not without its challenges. Issues of access and equity, teacher readiness, the digital divide, and data privacy need to be addressed to ensure that all learners can benefit from technology-enhanced language learning. Nevertheless, the potential for technology to transform ELT and promote learner autonomy, as well as enhance teacher professional development, is undeniable.

In this comprehensive review article, we will explore the transformative role of technology in English Language Teaching. We will examine the impact of technology on various aspects of ELT, including language learning, teaching methodologies, assessment practices, learner autonomy, and teacher professional development. By synthesizing current research and discussing emerging trends, we aim to provide a comprehensive understanding of the benefits, challenges, and future directions of technology in ELT. By embracing technology responsibly and harnessing its potential, educators can create engaging and effective language learning experiences for learners worldwide.

## Literature review

Technology integration in language learning is the use of technology to enhance the educational setting. Therefore, it is a shift from traditional instructional practices to technology-enhanced language learning (Dockstader, 2008; Ahmadi, 2018). This literature review section provides an overview of key findings from relevant studies over the past two decades, focusing on the benefits and challenges of utilizing the technology in English language teaching.

## Technology and Language Learning

The integration of technology into language learning has been widely explored in the literature, highlighting its transformative potential. A study, with 42 lower intermediate EFL learners divided into an experimental group and a control group, has shown that computer-assisted language learning (CALL) has a positive impact on language proficiency, vocabulary acquisition, and listening and speaking skill (Rahimi & Yadollahi, 2017). The study also found a correlation between the amount of time spent working with computers and the development of literacy skills, suggesting that increased use of computer-based technologies can enhance language learning. CALL provides learners with interactive and multimedia resources that enhance engagement, motivation, and autonomous learning (Levy & Stockwell, 2006). Learners can benefit from immediate feedback, personalized learning pathways, and access to authentic materials, leading to more effective language learning outcomes.

Mobile learning has also gained attention in the literature as a powerful tool in language acquisition. Research indicates that mobile learning applications and platforms enable learners to engage in independent and flexible learning, promoting learner autonomy (Kukulska-Hulme, 2018). Nowadays, with the spread of Mobile devices connected to the internet, learners have access to numerous websites and applications that allow them to be exposed to authentic English language materials. Learners can take advantage of microlearning moments throughout their day, maximizing their exposure to and practice of the target language.

Virtual Reality (VR) has emerged as an innovative approach in language learning. Through VR, learners can simulate real-life situations, such as ordering food in a restaurant or participating in a job interview, providing a safe environment for practice and exploration. VR facilitates the development of language skills, cultural understanding, and intercultural competence, as learners engage in meaningful and contextually-rich language activities.

Chatbot is a software application that tries to imitate human interaction using text conversations, voice commands, and AI technology of speech recognition. Studies have found that the application of AI chatbots has positively affected the learners' performance in learning different language skills (Kimova & Ibna Seraj, 2023). Due to connections to

databases, they can communicate appropriately. They try to provide the learner with a more human-like tone so that the communication is less machine-like and more convenient to the learner (Chen et al., 2020). Chatbots operate on the web, mobile devices, or computers. One of the web-based chatbots in the field of language learning is EnglishBot. ChatGPT is another example of a Chatbot developed by OpenAI. They launched it in 2022, and ChatGPT became the fastest-growing consumer software application in history by January 2023 (Krystal, 2023). Nghi et al. (2019) did research that has shown that using chatbots by learners makes the learning process fun and exciting. Hew et al. (2023) conducted research in China with mixed methods. The Participants were 29 postgraduate and 38 undergraduate students, and they collected data through surveys and open-ended interviews. The study objective was to investigate the feasibility of using chatbots to facilitate student-driven goal-setting and online community building (Klímová & Ibna Seraj, 2023). The findings of the research were the learners' positive experiences with chatbots. One of the EFL learners' most significant barriers to learning is that they are not exposed to the target language outside of the classroom. But chatbots, accessible anywhere and anytime, make it possible to practice the target language in every realistic setting. Chatbots are easy to use; therefore, one does not require any technical knowledge. Moreover, many studies have shown that students' speaking skills, use of intonation, and stress developed, especially in students with low-level proficiency. However, the scarcity of research, with only seven open-access empirical studies, demonstrates that using chatbots in university EFL classrooms should be investigated more.

Gamification in language learning has gained recognition for its ability to increase learners' motivation and engagement. Paramount human emotions, such as a sense of accomplishment and excitement, could be evoked by the power of gamification. It can also help learners to feel joyful when learning (Yassin & Abdulgalil Abugohar, 2022; Nuri et al., 2022; Mudure Iacob, 2021; Zhang & Crawford, 2023). The Findings of previous research indicate that gamification encourages EFL learners to identify the value and advantages of assessment as motivation for identified regulation (Zhang & Crawford, 2023). By tapping into the inherent enjoyment of games, gamification transforms language learning into an interactive and rewarding experience.

### **Technology-Integrated Teaching Methodologies**

The integration of technology has revolutionized teaching methodologies in English Language Teaching (ELT), shifting from traditional teacher-centered approaches to more learner-centered and interactive models. Technology offers a range of tools and platforms that facilitate communication, collaboration, and personalized instruction, ultimately enhancing the teaching and learning experience.

Technology has influenced teaching methodologies, promoting learner-centered and interactive approaches. Blended learning is a combination of face-to-face instruction

and online activities. Recently, it has been receiving more attention due to social changes, technological advances, and the increasing internationality of studies (Mora-López & Bernárdez-Vilaboa, 2023). Online platforms, learning management systems, and video conferencing tools facilitate the integration of digital resources and support collaborative learning. The flipped classroom model, where learners access instructional materials outside of class, allows for more interactive and personalized classroom activities, fostering deeper engagement and understanding (Strayer, 2012; Lo & Hew, 2017).

One prominent approach influenced by technology is blended learning. Blended learning combines face-to-face instruction with online components, creating a more flexible and dynamic learning environment (Graham, 2006). Online platforms and learning management systems (LMS) helps exchange information and ideas about educational content. They also allow the teacher to observe live group work. Also, videoconferencing enables the teacher to communicate with students in the classroom or even students from other classes. Moreover, it provides the opportunity for teachers to review and evaluate learners' assignments offline. It contributes to enhancing teaching methods by relying in interactive courses on social communication (Malkawi et al., 2023; Rababah & Malkawi, 2012). This approach allows for a balance between teacher-guided instruction and learner autonomy, as learners can access materials and engage in activities at their own pace and convenience (Garrison & Kanuka, 2004). Blended learning provides teachers and students with a flexible learning platform that motivates students toward authentic language learning practices. EFL learners would have practical improvement with collaborative language activities, and their interactive language skills would be modified (Rahim, 2019).

The flipped classroom model is another teaching methodology that has been greatly influenced by technology. In a flipped classroom, learners engage with instructional content outside of class, often through pre-recorded videos, online modules, or readings (Bergmann & Sams, 2012). The class time is then dedicated to interactive and application-based activities, such as group discussions, problem-solving tasks, and project work. Technology enables the easy distribution of instructional materials and resources, allowing learners to access them at any time and review them as needed (Strayer, 2012). Learners can watch videos or complete online exercises to acquire the necessary knowledge before coming to class, which allows for more focused and productive in-class interactions (Lage et al., 2000). The flipped classroom model promotes active learning, critical thinking, and collaboration, as learners engage in higher-order thinking tasks and apply their knowledge in meaningful contexts (Talbert & Bergmann, 2017).

Collaborative learning is also greatly facilitated by technology in the ELT classroom. The previous study suggests that the students believe that Google applications such as Google Classroom and Google Docs are easy to use. These platforms support the teacher-to-student and student-to-student interactions; therefore, they assist learners to

establish a collaborative learning environment (Khalil, 2018). However, online collaboration tools are not limited to Google Docs or Google Classroom. Numerous virtual classrooms and discussion boards. These tools provide opportunities for learners to engage in authentic communication, collaborative problem-solving, and peer teaching (Johnson & Johnson, 1999). Through online platforms, learners can engage in group discussions, collaborate on writing tasks, and conduct virtual presentations, regardless of their physical location (Dillenbourg et al., 2009). Collaborative learning supported by technology fosters social interaction, language practice, and the development of communication and teamwork skills, mirroring real-world contexts (Harasim, 2012).

Moreover, technology offers a range of digital tools and applications that support differentiated instruction, catering to learners' diverse needs and abilities. Adaptive learning technologies using artificial intelligence support individualization of acquisition with various teaching approaches. Moreover, it personalizes achievement based on the intellectual potential of each learner (Capuano & Caballé, 2020). These tools assess learners' strengths and weaknesses, track their progress, and provide targeted feedback and recommendations for further learning (Sung et al., 2016). Learners can engage with interactive activities, quizzes, and simulations that adapt to their skill level and provide additional support in areas where they require it. Technology-integrated differentiated instruction promotes learner engagement, self-efficacy, and academic achievement by addressing learners' specific learning styles, interests, and readiness levels (Tomlinson, 2001).

### **Technology-Driven Assessment Practices**

Technology has revolutionized assessment practices in English Language Teaching (ELT), offering new possibilities for efficient, accurate, and personalized assessment. Technology-driven assessment practices leverage digital tools, online platforms, and automated systems to enhance the assessment process and provide valuable feedback to learners.

One prominent form of technology-driven assessment is online assessments. Online assessments are conducted through digital platforms or learning management systems (LMS), allowing learners to complete quizzes, tests, and assignments online (Chapelle, 2017). Online assessments offer several advantages over traditional paper-based assessments. AI-based online assessment tools make it easier for teachers to personalize student's learning. They also help the learners to find their strengths and weaknesses by giving immediate feedback (De la Vall & Araya, 2023). Learners receive immediate scores and can review their answers, facilitating self-assessment and reflection (Gikandi et al., 2011). Exam papers could be analyzed and evaluated by many automated grading software. Even if these systems make a mistake and the teacher fixes it, the AI system will never repeat. Thus, the length of the grading process would be reduced, and

less effort would be made by the teacher (Babitha et al., 2022). Therefore, the scoring system is objective.

Adaptive testing, using computer algorithms, presents each test item based on the student's previous answers. In other words, it measures the difficulty of test items (Huang et al, 2009). The test adapts in real-time, presenting more challenging items to learners who demonstrate higher proficiency levels and easier items to learners who need additional support (Bachman, 2000). Adaptive testing offers several advantages over traditional fixed-item tests. Adaptive testing saves time by eliminating unnecessary items that are too easy or too difficult for the learner (van der Linden & Glas, 2000). Therefore, learners do not get frustrated when facing items that do not match their proficiency level, and they get motivated to continue.

Technology-driven assessment practices extend beyond objective assessments to include the evaluation of productive language skills, such as speaking and writing.

Language learners receive personalized feedback on their pronunciation by using ASR technology, aka automated speech recognition, to boost their overall speaking proficiency (Bashori et al., 2022; Sun, 2023). Moreover, assessment tools such as the IELTS Speaking Skill Test can evaluate learners' speaking ability, including fluency and coherence, lexical resources, grammatical range and accuracy, and pronunciation. (Bashori et al., 2022). Automated writing evaluation systems utilize natural language processing algorithms to assess learners' writing based on criteria such as grammar, vocabulary, coherence, and organization (Leacock & Chodorow, 2003). These technology-driven assessment tools provide learners with instant feedback on their spoken and written language production, allowing them to identify and address specific areas for improvement (Lamy & Hampel, 2007).

Furthermore, technology-driven assessment practices enable the collection and analysis of large-scale data on learners' performance. Learning analytics leverages data mining techniques to gather and analyze learners' digital interactions, such as their engagement with online materials, completion of activities, and participation in discussion forums (Macfadyen & Dawson, 2012). Learning analytics can inform instructional decisions, allowing teachers to tailor their instruction to better meet the needs of individual learners or groups (Siemens & Baker, 2012).

In conclusion, technology-driven assessment practices have transformed the assessment landscape in ELT. Online assessments provide learners with immediate feedback and streamline the grading process for teachers. Adaptive testing tailors assessments to learners' individual abilities, offering a more accurate measurement of proficiency.

### **Technology and Teacher Professional Development**

Technology has had a profound impact on teacher professional development in the field of English Language Teaching (ELT). It has opened up new avenues for learning,



collaboration, and the acquisition of digital pedagogy skills. Teachers can now access a wide range of online resources, participate in virtual communities, and engage in self-paced learning opportunities that support their professional growth.

Technology has also revolutionized teacher professional development in the field of ELT. One of the significant tools widely used for teaching and learning English is the e-learning platform. Teachers can use these platforms to communicate and interact with learners, evaluate them, and leave some feedback (Malkawi et al., 2023)

One of the Distance Professional Development and Support (DPDS) System is communication module:

The *communication module* allows participants of the PD program to interact with the instructors of the course. It also serves the function of providing access to peers, experts, teachers engaged in the same PD program and colleagues outside the program, and is a tool for cooperative and collaborative activities in the group (Serdiukov & Tarnopolsky, 1999: p. 16).

Additionally, technology provides avenues for teachers to enhance their digital pedagogy skills and integrate technology effectively into their teaching practices (Egbert et al., 2018). Professional development programs can incorporate online modules and courses that focus on digital literacy, digital citizenship, and innovative teaching methodologies (O'Bannon et al., 2018).

Online communities and social media platforms have become valuable spaces for teachers to connect, collaborate, and share resources. In 1998, Tobin coined the term “Professional Learning Network” (PLN), which refers to the learning of teachers about their professional work. Tobin suggests that employees can acquire knowledge and skills by observing and engaging in conversations with their network of colleagues, as well as individuals who possess relevant expertise (Trust et al., 2016). García-Martínez et al. (2022) believe that teaching collaboration in virtual environments affects teachers’ professional learning in their initial and in-service training, which can be potentially valuable for instructional processes. Through these online communities, teachers can build a global professional network, gain support, and benefit from the collective wisdom of experienced educators.

Webinars and virtual workshops offer convenient and accessible professional development opportunities for teachers. Many organizations and educational institutions now offer online training sessions and webinars on various topics related to technology integration, pedagogy, assessment, and language teaching methodologies (Li & Lalani, 2018). These webinars often feature renowned experts in the field and provide teachers with practical strategies, resources, and demonstrations of technology-enhanced teaching practices. Virtual workshops allow teachers to interact with facilitators and peers, engage in hands-on activities, and receive feedback on their teaching approaches (Egbert et al., 2018). The flexibility of online professional development enables teachers to engage in

learning opportunities at their own pace and schedule, accommodating their professional responsibilities and personal commitments.

E-learning platforms and online courses have also become popular avenues for teacher professional development. Educational institutions, professional organizations, and online platforms offer a wide range of courses on topics such as digital literacy, blended learning, gamification, and assessment practices (O'Bannon et al., 2018). These courses provide teachers with opportunities to deepen their understanding of technology integration, explore new teaching methodologies, and acquire practical skills. If you are a teacher who needs to learn more about a given topic, such as lesson design, you can easily use different e-learning platforms to educate yourself with a self-paced course. These courses often include interactive multimedia materials, quizzes, and assignments, enabling teachers to engage actively in the learning process.

Furthermore, technology offers teachers opportunities for reflective practice and self-assessment. Digital tools, such as video recording software or online portfolios, allow teachers to record their teaching sessions, review their instructional practices, and engage in self-reflection (Nguyen & Elliott, 2019). In other words, teachers can investigate techniques they use to teach, monitor the students' engagement and participation in group discussions, and determine areas of improvement (Gibson & Ross, 2016). Online platforms and learning management systems can support the creation of electronic portfolios, where teachers can showcase their teaching artifacts, reflections, and evidence of professional growth (Barrett, 2005). These tools promote self-assessment, self-directed learning, and continuous improvement by encouraging teachers to critically reflect on their teaching practices and set goals for their professional development.

It is important to note that technology-driven teacher professional development requires ongoing support and collaboration. Technology can play a vital role in providing profitable ways with which professional learning communities can have continuous reflection while having coaching professional development courses (McAleavy et al., 2018). Collaboration among teachers is also crucial for effective professional development. Todd (2017) confirms that all the participants verified that peer observation was helpful and beneficial for their professional development as teachers.

### **Challenges and Future Directions**

While the integration of technology in ELT has shown significant potential, several challenges and considerations need to be addressed. Access and equity remain critical issues, as not all learners have equal access to technology and internet connectivity (Levy, 2016). Bridging the digital divide and ensuring inclusive access to technology-enhanced language learning is essential for equitable education. In the digital age, teachers are required to have adequate competence to use technology and technological devices. Today, teachers should be able to effectively integrate technology into pedagogical practices (ÇALIŞKAN & Caner, 2022). Professional development programs should

prioritize the development of teachers' digital literacy skills and provide ongoing support for effective technology integration. Moreover, with the rise of modern AI-empowered chatbots, EFL classrooms and educators need a specific methodology or framework that guides teachers and students to use AI-based language models effectively and to prevent students from falling into the trap of plagiarism and cheating. Besides, the teacher training courses should be revised to educate teachers on the convincing use of technology in EFL classrooms. Ethical considerations, including data privacy and responsible use of technology, should be carefully addressed to protect learners' personal information and ensure a safe learning environment (Zawacki-Richter et al., 2019). Looking ahead, emerging technologies hold great potential for the future of technology-enhanced ELT. AI has access to Big Data. Moreover, it is incorporated with sophisticated analytical processes; therefore, artificial intelligence introduces a new era of personalized, student-centered, and collaborative forms of learning (Schmidt & Strasser, 2022). AR applications are based on pedagogical theories. Hadid et al. (2019) and Panagiotidis (2021) believe that AR provides learners with an interactive learning environment; therefore, learners can understand real-world situations better with multimedia. As these technologies continue to evolve, further research and exploration are needed to fully understand their impact and potential in language learning and teaching.

In summary, while technology has transformed ELT, challenges related to access, teacher readiness, ethical considerations, and pedagogical integration need to be addressed. Providing equitable access to technology, supporting teachers' professional development, and ensuring ethical use of technology are critical steps. Additionally, ongoing research and exploration of emerging technologies can shape the future of technology-enhanced language learning and teaching, leading to more effective and engaging language learning experiences.

## Conclusion

The integration of technology in English Language Teaching (ELT) has ushered in a new era of possibilities and opportunities for teachers and learners. It has transformed traditional teaching methodologies, assessment practices, and professional development approaches. By harnessing the power of technology, educators can create engaging, personalized, and interactive learning environments that promote language acquisition, collaboration, and learner autonomy.

Technology offers a range of tools and platforms that facilitate communication, collaboration, and access to learning resources. Blended learning, flipped classrooms, collaborative learning, and adaptive instruction are just a few examples of technology-integrated teaching methodologies that have gained prominence in ELT. These methodologies allow for individualized learning experiences, foster critical thinking and collaboration, and empower learners to take an active role in their language learning journey.

Furthermore, technology-driven assessment practices provide immediate feedback, streamline the grading process, and enable personalized assessment. Online assessments, adaptive testing, and automated speaking and writing evaluation systems offer efficient and accurate means of assessing learners' language proficiency. Technology also enables the collection and analysis of data, allowing for data-informed decision-making and personalized learning interventions. Teacher professional development has also been revolutionized by technology. Online communities, webinars, e-learning platforms, and self-reflection tools provide teachers with accessible and flexible opportunities to enhance their digital literacy skills, explore innovative teaching methodologies, and engage in lifelong learning. Collaboration among teachers, along with ongoing support from educational institutions, is crucial to ensuring effective technology integration and maximizing the benefits of technology in ELT.

Despite the numerous benefits, challenges such as access and equity, teacher readiness, ethical considerations, and pedagogical integration need to be addressed. Efforts must be made to bridge the digital divide, provide comprehensive professional development, establish ethical guidelines, and ensure that technology is used purposefully to support pedagogy. Looking ahead, emerging technologies such as AI, NLP, VR, and AR hold promise for further transforming ELT. Natural Language Processing (NLP) is a technology that extracts information from documents and categorizes them. One of its applications could be translating a text into different languages or a response system that provides you with answers to your questions. AI can provide personalized and collaborative learning experiences, while AR offers an interactive learning environment. VR, on the other hand, enables learners to engage in immersive and contextually rich language activities. In the integration of technology in English Language Teaching (ELT), it is crucial to address specific ethical considerations to ensure a responsible and balanced approach. One major concern is data privacy. With the use of technology, there is a potential risk of sensitive learner data being accessed or misused. Teachers and institutions must take appropriate measures to protect learner information and comply with data protection regulations.

Another important consideration is the responsible use of Artificial Intelligence (AI) in ELT. While AI can enhance language learning experiences by providing personalized feedback and adaptive content, it is necessary to ensure that it is used ethically and transparently. Teachers should be aware of the limitations and biases of AI tools and actively monitor and validate their output to minimize potential harm or discrimination.

Technology also has an impact on learner well-being that cannot be overlooked. Excessive use of technology or undue reliance on screen time can have detrimental effects on learners' mental and physical health. Teachers need to strike a balance between technology-based activities and real-life interactions to prioritize learner well-being.

AI-based language models, like any other technological device or system, are expected to become common in classrooms. To fully utilize technology in English as a Foreign Language (EFL) classrooms, it is crucial to have a predetermined course that educates and familiarizes teachers with the integration of technology in language teaching. Therefore, institutions and researchers can play a crucial role by providing teachers with a framework or methodology that guides them on the effective use of different technologies in the classroom. Additionally, policymakers should revise budget programs to ensure that all teachers have the opportunity to undergo these courses and receive up-to-date technologies for their classrooms.

In conclusion, technology has become an integral part of ELT, shaping teaching methodologies, assessment practices, and professional development. With careful consideration of challenges and a focus on responsible and purposeful integration, technology has the potential to revolutionize language learning, empower learners, and prepare them for the digital age. By embracing technology as a tool for enhancing pedagogy, educators can create dynamic, engaging, and effective language learning environments that foster language acquisition, critical thinking, collaboration, and lifelong learning skills.

### References

- Babitha et al. (2022). Trends of Artificial Intelligence for online exams in education. *International journal of Early Childhood special Education*, 14(1), 2457-2463. DOI: 10.9756/INT-JECSE/V14I1.290
- Ahmadi, D.M.R. (2018). The use of technology in English language learning: A literature review. *International journal of research in English education*, 3(2), 115-125. www.ijreeonline.com
- Bachman, L.F. (2000). Modern language testing at the turn of the century: Assuring that what we count counts. *Language testing*, 17(1), 1-42. <https://doi.org/10.1177/026553220001700101>
- Barata, G., Gama, S., Jorge, J., & Gonçalves, D. (2013). Improving participation and learning with gamification. In Proceedings of the First International Conference on gameful design, research, and applications (pp. 10–17). <https://doi.org/10.1145/2583008.2583010>
- Bashori, et al. (2022). ‘Look, I can speak correctly’: learning vocabulary and pronunciation through websites equipped with automatic speech recognition technology. *Computer Assisted Language Learning*, 35(1-2), 1-29. <https://doi.org/10.1080/09588221.2022.2080230>
- Bergmann, J & Sams, A. (2012). Before you flip, consider this. *Phi Delta Kappan*, 94(2), 25-25. <https://doi.org/10.1177/003172171209400206>

- ÇALIŞKAN, E., & Caner, M. (2022). E-readiness of EFL teachers. *Malaysian Online Journal of Educational Technology*, 10(1), 1-15. <https://doi.org/10.52380/mojet.2022.10.1.266>
- Capuano, N & Caballé, S. (2020). Adaptive learning technologies. *Ai Magazine*, 41(2), 96-98. <https://doi.org/10.1609/aimag.v41i2.5317>
- Chapelle, C. A. (2017). Technology and second language assessment. *Annual Review of Applied Linguistics*, 37, 23-43.
- Chen, H.-L., Vicki Widarso, G., & Sutrisno, H. (2020). A chatbot for learning Chinese: Learning achievement and technology acceptance. *Journal of Educational Computing Research*, 58(6), 1161-1189. <https://doi.org/10.1177/0735633120929622>
- De la Vall, R. R. F., & Araya, F. G. (2023). Exploring the benefits and challenges of AI-language learning tools. *Int. J. Soc. Sci. Humanit. Invent*, 10, 7569-7576. DOI: 10.18535/ijsshi/v10i01.02
- Dillenbourg et al. (2009). *The evolution of research on computer-supported collaborative learning: From design to orchestration*. Springer. DOI 10.1007/978-1-4020-9827-7 1
- Dockstader, J. (2008). Teachers of the 21st century know the what, why, and how of technology integration. Retrieved from <http://the-tech.mit.edu/Chemicool>
- Ebadi, S., & Ebadijalal, M. (2022). The effect of Google Expeditions virtual reality on EFL learners' willingness to communicate and oral proficiency. *Computer Assisted Language Learning*, 35(8), 1975-2000. <https://doi.org/10.1080/09588221.2020.1854311>
- Egbert, J., Akasha, A., Huff, S., & Lee, H. (2018). Transforming teacher practice in language assessment through an online professional development course. *Language Teaching Research*, 22(4), 455-474.
- García-Martínez, I., Tadeu, P., Montenegro-Rueda, M. & Fernández-Batanero, M. (2022). Networking for online teacher collaboration. *Interactive Learning Environments*, 30(9), 1736-1750. <https://doi.org/10.1080/10494820.2020.1764057>
- Garrison, D.R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The internet and higher education*, 7(2), 95-105. <https://doi.org/10.1016/j.iheduc.2004.02.001>
- Ghanbarzadeh, R., Ghapanchi, A. H., Blumenstein, M., & Talaei-Khoei, A. (2014). A decade of research on the use of three-dimensional virtual worlds in health care: a systematic literature review. *Journal of medical Internet research*, 16(2), e47. [Journal of Medical Internet Research - A Decade of Research on the Use of Three-Dimensional Virtual Worlds in Health Care: A Systematic Literature Review \(jmir.org\)](https://doi.org/10.2196/jmir.2013.2382)
- Gibson, S., & Ross, D. (2016). *Video and reflection in teacher education: Creating spaces for reflection on action*. *Reflective Practice*, 17(6), 680-693.

- Gikandi, J. W., Morrow, D., & Davis, N. E. (2011). Online formative assessment in higher education: A review of the literature. *Computers & Education*, 57(4), 2333-2351. <https://doi.org/10.1016/j.compedu.2011.06.004>
- Graham, C.R. (2006). Blended learning systems. *The handbook of blended learning: Global perspectives, local designs, 1*, 3-21.
- Hadid, A., Mannion, P. & Khoshnevisan, B. (2019). Augmented reality to the rescue of language learners. *Florida Journal of Educational Research*, 57(2), 81-89. <https://journals.flvc.org/>
- Harasim, L. (2017). *Learning theory and online technologies*. Taylor & Francis. [Learning Theory and Online Technologies - Linda Harasim - Google Books](#)
- Hew, K. F., Huang, W., Du, J., & Jia, C. (2023). Using chatbots to support student goal setting and social presence in fully online activities: learner engagement and perceptions. *Journal of Computing in Higher Education*, 35(1), 40-68. <https://doi.org/10.1007/s12528-022-09338-x>
- Hu, K. (2023). ChatGPT sets record for the fastest-growing user base- analyst note. Reuters. [ChatGPT sets record for fastest-growing user base - analyst note | Reuters](#)
- Huang et al. (2009). An adaptive testing system for supporting versatile educational assessment. *Computers & Education*, 52(1), 53-67. <https://doi.org/10.1016/j.compedu.2008.06.007>
- Johnson, D.W. & Johnson, R.T. (1999). Making cooperative learning work. *Theory into practice*, 38(2), 67-73. <https://doi.org/10.1080/00405849909543834>
- Khalil, Z.M. (2018). EFL students' perceptions towards using Google Docs and Google Classroom as online collaborative tools in learning grammar. *Applied Linguistics Research Journal*, 2(2), 33-48. Doi: 10.14744/alrj.2018.47955
- Klímová, B., & Ibna Seraj, P. M. (2023). The use of chatbots in university EFL settings: Research trends and pedagogical implications. *Frontiers in Psychology*, 14, 1146. <https://doi.org/10.3389/fpsyg.2023.1131506>
- Kukulka-Hulme, A. (2018). Mobile assistance for personal learning on a massive scale. *Flipping the blend through MOOCs, MALL and OIL—new directions in CALL*, 1-7. [Flipping the blend through MOOCs, MALL and OIL – new directions in CALL - Google Books](#)
- Lage, M.J, Platt, G.J, Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. *The journal of economic education*, 31(1), 30-43. <https://doi.org/10.1080/00220480009596759>
- Lai, Y., Saab, N., & Admiraal, W. (2022). University students' use of mobile technology in self-directed language learning: Using the integrative model of behavior prediction. *Computers & Education*, 179, 104413. <https://doi.org/10.1016/j.compedu.2021.104413>
- Lo, C. K., & Hew, K. F. (2017). A critical review of flipped classroom challenges in K-12 education: Possible solutions and recommendations for future research. *Research*

- and practice in technology enhanced learning*, 12(1), 1-22. DOI 10.1186/s41039-016-0044-2
- Lamy, M., & Hampel, R. (2007). *Online communication in language learning and teaching*. Springer.
- Leacock, C., Chodorow, M. (2003). C-rater: Automated scoring of short-answer questions. *Computers and the Humanities*, 37(4), 389-405. [C-rater: Automated Scoring of Short-Answer Questions | SpringerLink](#)
- Levy, M., & Stockwell, M. (2006). Effective use of CALL technologies: Finding the right balance. *Changing language education through CALL*, 1(18), 301-320. [Changing Language Education Through CALL - Google Books](#)
- Macfadyen, L. P., & Dawson, S. (2012). Numbers are not enough. Why e-learning analytics failed to inform an institutional strategic plan. *Journal of Educational Technology & Society*, 15(3), 149-163. [Numbers Are Not Enough. Why e-Learning Analytics Failed to Inform an Institutional Strategic Plan on JSTOR](#)
- Malkawi, N., Rababah, M. A., Al Dalaeen, I., Ta'amneh, I. M., El Omari, A., Alkhalidi, A. A., & Rabab'ah, K. (2023). Impediments of using e-learning platforms for teaching English: A case study in Jordan. *International Journal of Emerging Technologies in Learning (Online)*, 18(5), 95. <https://doi.org/10.3991/ijet.v18i05.36727>
- McAleavy, T., Hall-Chen, A., Horrocks, S., Riggall, A. (2018). *Technology-Supported Professional Development for Teachers: Lessons from Developing Countries*. ERIC. <https://eric.ed.gov>
- Mohamad, A. M. (2023). Exploring the potential of an AI-based Chatbot (ChatGPT) in enhancing English as a Foreign Language (EFL) teaching: perceptions of EFL Faculty Members. *Education and Information Technologies*, 1-23.
- Mora- López, N., Bernárdez-Vilaboa, R. (2023). Exploratory Study on the Blended Learning of Research and Language Skills in EFL and Interinstitutional Assessment. *Education Sciences*, 13(2), 155. <https://doi.org/10.3390/educsci13020155>
- Mudure-Iacob, I. (2021). Gamified assessment of business English: Learning and testing business idioms and collocations via digital escape rooms. *Lingua. Language and Culture*, 20(1), 76–90. <https://www.ceeol.com/search/article-detail?id=101678>
- Nghi, T. T., Phuc, T. H., & Thang, N. T. (2019). Applying AI chatbot for teaching a foreign language: An empirical research. *International Journal of Scientific and Technology Research*, 8(12), 897-902. [Applying-Ai-Chatbot-For-Teaching-A-Foreign-Language-An-Empirical-Research.pdf \(researchgate.net\)](#)
- Nguyen, L., & Elliott, K. (2019). Video feedback in the foreign language classroom: A systematic review. *System*, 82, 127-142.
- Nuri, H. S. M., Qadir, S. M., Mohammed, R. R., & Azaldin, A. H. (2022). Perceptions of postgraduate students towards the use of Kahoot as a formative assessment tool in an English language course. *Journal of University of Raparin*, 9(5), 229–251. [https://doi.org/10.26750/Vol\(9\).No\(5\).Paper11](https://doi.org/10.26750/Vol(9).No(5).Paper11)



- O'Bannon, B. W., Lubke, J. K., Beard, J. L., Britt, V. G., & Harper, S. (2018). Examining the influence of teacher professional development, teacher and student factors on blended learning implementation. *Journal of Research on Technology in Education*, 50(4), 323-340
- Panagiotidis, P. (2021). Augmented and mixed reality in language learning. *European Journal of Education*, 4(2), 27-43. DOI: 10.26417/501ibq23c
- Rababah, M.A & Malkawi, N.A.A. (2012). The linguistic etiquette of greeting and leave-taking in Jordanian Arabic. *European Scientific Journal*, 8(18). [The-linguistic-etiquette-of-greeting-and-leave-taking-in-Jordanian-Arabic.pdf \(researchgate.net\)](#)
- Rahim, M.N. (2019). The use of blended learning approach in EFL education. *International Journal of Engineering and Advanced Technology*, 8(5), 1165-1168. [E11630585C19-libre.pdf \(d1wqtxts1xzle7.cloudfront.net\)](#)
- Rahimi, M., & Yadollahi, S. (2017). Effects of offline vs. online digital storytelling on the development of EFL learners' literacy skills. *Cogent Education*, 4(1), 1-13. doi:10.1080/2331186x.2017.1285531
- Schmidt, T., & Strasser, T. (2022). Artificial intelligence in foreign language learning and teaching: a CALL for intelligent practice. *Anglistik: International Journal of English Studies*, 33(1), 165-184. <https://doi.org/10.33675/ANGL/2022/1/14>
- Serdiukov, P. & Tarnpolsky. (1999). *EFL Teachers' Professional Development: A Concept, a Model, and Tools*. ERIC. <https://eric.ed.gov>
- Siemens, G., & Baker, R.S.d. (2012). Learning analytics and educational data mining: towards communication and collaboration. Proceedings of the 2nd international conference on learning analytics and knowledge, 252-254. <https://doi.org/10.1145/12230601.23300661>
- Strayer, JF. (2012). How learning in an inverted classroom influences cooperation, innovation and task orientation. *Learning environments research*, 15, 171-193. <https://doi.org/10.1007/s10984-012-9108-4>
- Sun, w. (2023). The impact of automatic speech recognition technology on second language pronunciation and speaking skills of EFL learners: a mixed methods investigation. *Frontiers in Psychology*, 14, 3. <https://doi.org/10.3389/fpsyg.2023.1210187>
- Sung et al. (2019). The effects of integrating mobile devices with teaching and learning on students' learning performance: A meta-analysis and research synthesis. *Computers & Education*, 94, 252-275. <https://doi.org/10.1016/j.compedu.2015.11.008>
- Talbert, R & Bergmann, J. (2017). *Flipped learning: A guide for higher education faculty*. Routledge. <https://doi.org/10.4324/9781003444848>
- Tobin, D. R. (1998). Building your personal learning network. *Corporate learning strategies*.
- Todd, M, A. (2017). Peer observation as a tool for professional development. *Culminating Projects in English*. [https://repository.stcloudstate.edu/engl\\_etds/84](https://repository.stcloudstate.edu/engl_etds/84)

- Tomlinson, C.A. (2001). *How to differentiate instruction in mixed-ability classrooms*. Ascd. <http://www.ascd.org>
- Trust, T., Krutka, D. G., & Carpenter, J. P. (2016). “Together we are better”: Professional learning networks for teachers. *Computers & education*, 102, 15-34.
- Van der Linden, W.J., & Glas C.A. (2000). *Computerized adaptive testing: Theory and practice*. Springer.
- Yassin, B., & Abdulgalil Abugohar, M. (2022). Gamified mobile-assisted formative assessment for reviving undergraduate learners’ overall language proficiency: A quasi-experimental study. *Teaching English with Technology*, 22(2), 69–89. <http://www.tewtjournal.org>
- Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education—where are the educators? *International Journal of Educational Technology in Higher Education*, 16(1), 1-27. <https://doi.org/10.1007/s10639-023-12034-7>
- Zhang, Z., & Crawford, J. (2023). EFL learners’ motivation in a gamified formative assessment: The case of Quizizz. *Education and Information Technologies*, 28(7), 1-23. <https://doi.org/10.1007/s10639-023-12034-7>