tatefl

Check for updates

The Art of Teaching English as a Foreign Language (TATEFL)
ISSN: 2684-8546
Vol. 5 No.2, November 2024, 207-218
DOI: https://doi.org/10.36663/tatefl.v5i2.912

Artificial Intelligence in English Language Learning: A Systematic Review of AI Tools, Applications, and Pedagogical Outcomes

Dana Yudha Kristiawan*
Universitas 17 Agustus 1945 Banyuwangi
Indonesia
dana.kristiawan@untag-banyuwangi.ac.id

Khaliq Bashar
The University of Newcastle
Australia
khaliq.bashar@uon.edu.au

Dian Arief Pradana
Universitas 17 Agustus 1945 Banyuwangi
Indonesia
dian.pradana@untag-banyuawngi.ac.id

*****Corresponding author*

Abstract

This systematic review examines the role of artificial intelligence (AI) in English language teaching (ELT), analyzing AI tools, applications, and their pedagogical outcomes. AI technologies, such as chatbots, intelligent tutoring systems, and speech recognition software, are increasingly used to enhance language learning experiences. The review follows the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) model, a standardized approach that ensures transparency and rigor in identifying, screening, and analyzing relevant literature. PRISMA emphasizes clear documentation of the selection process, including inclusion and exclusion criteria, to provide a systematic and replicable methodology for comprehensive reviews. Through thematic qualitative analysis of recent literature indexed in Scopus and Web of Science, key themes emerged regarding AI types, applications, teacher and learner perspectives, and ethical considerations. Findings reveal that AI tools enhance learner engagement, provide personalized learning experiences, and improve language proficiency, particularly in speaking and writing. However, challenges remain, such as accessibility barriers, teacher preparedness, and ethical concerns around data privacy and bias. This review proposes a framework for AI integration in ELT, focusing on access, teacher training, ethical standards, and blended learning models to optimize AI's benefits. The study underscores the need for targeted teacher training and ethical standards to maximize AI's effectiveness and sustainability in ELT. This framework and the review findings aim to support educators, developers, and policymakers in fostering an AI-enriched learning environment that aligns with educational goals while addressing existing limitations.

Keywords: Artificial Intelligence (AI); English Language Teaching (ELT); Systematic Review

Article History

Submitted:	*Revised:*	*Accepted:*
November 18th 2024	*November 24th*	*November 27th 2024*

Recommended Citation (APA Style)

Kristiawan, D., Y., Bashar, K., & Pradana, D. A. (2024). Artificial intelligence in English language learning: A systematic review of ai tools, applications, and pedagogical outcomes. *The Art of Teaching English as a Foreign Language (TATEFL)*, *5*(2), 207-218. https://doi.org/10.36663/tatefl.v5i2.912

INTRODUCTION

Technological advancements have fundamentally transformed educational methodologies, with Artificial Intelligence (AI) emerging as a key innovation in recent years. In English Language Teaching (ELT), AI applications range from personalized learning platforms to automated feedback tools, all aiming to enhance learner engagement and linguistic proficiency. This shift aligns with a broader trend of digitalization in education, where AI enables adaptive learning experiences and provides resources tailored to individual student needs (Sajja et al., 2024). Recent developments in Natural Language Processing (NLP) and machine learning have allowed for nuanced applications that mimic human-like feedback, thereby offering English learners real-time corrections and suggestions in areas like grammar, vocabulary, and pronunciation (Jegede, 2024).

AI's ability to simulate conversational practice, provide instant feedback, and create interactive learning environments has made it particularly valuable in language learning. These AI tools have shown promise in helping students build conversational skills in English, which often requires frequent and contextually varied practice—traditionally difficult to achieve in limited classroom time (Kessler, 2018). Moreover, AI applications help reduce the workload on educators by automating repetitive assessment tasks, thus allowing teachers to focus on personalized support and critical-thinking skills (Mishra & Varshney, 2024). As AI continues to improve in terms of functionality and accessibility, understanding its potential and limitations in ELT becomes essential to maximizing its educational benefits.

While AI-driven language tools are developing rapidly, their effectiveness remains under study, particularly regarding pedagogical outcomes. On one hand, AI applications like virtual tutoring systems and interactive chatbots enhance language acquisition by fostering an immersive and interactive experience (AbuSahyon et al., 2023). On the other hand, challenges persist, such as maintaining learner motivation and ensuring the reliability of AI feedback, which are critical for effective language acquisition (Song & Song, 2023). Furthermore, there are increasing ethical concerns about data privacy and the potential risk of over-reliance on AI, which could overshadow essential teacher-student interactions (Mohamed, 2024). While the potential benefits are clear, it is important to carefully balance these risks to ensure that AI remains a complementary tool in the classroom. Understanding these benefits and limitations of AI is crucial for developing a balanced approach to its application in ELT.

Given the complexities involved, this systematic review addresses three central questions: First, what AI tools and applications are currently available and specifically developed for English language learning? Widely used tools such as Duolingo, Grammarly, and ChatGPT are examples of AI-powered applications that provide personalized learning experiences, grammar corrections, and conversational practice, respectively. Second, how are these AI applications influencing pedagogical practices and learner outcomes? Third, what are the advantages and challenges associated with using AI in ELT, including ethical considerations such as data privacy, the reliability of AI-generated feedback, and the potential for over-reliance on AI at the expense of human interaction? Addressing these questions provides a comprehensive view of AI's capabilities and limitations, offering valuable insights

for educators, administrators, and policymakers involved in English language education (Miao et al., 2021).

This review focuses on AI-driven tools and applications that target various aspects of English language learning, including grammar, vocabulary, pronunciation, and overall communicative competence. By examining recent empirical studies, conceptual papers, and case studies, this review synthesizes the current state of research on AI's applications and their impact on ELT pedagogy. The review excludes generalized discussions on educational technology, narrowing its focus to AI applications specifically designed for English language learning. Literature from the past decade was selected to ensure relevance, given the rapid advancements in AI technology.

The primary objective of this systematic literature review is to provide a comprehensive synthesis of existing studies on AI in ELT. The study aims to map out the variety of tools and applications, examine their effectiveness in achieving pedagogical goals, and highlight potential areas for improvement. Through a critical analysis of the literature, this review sheds light on the transformative potential of AI in English language learning and provides recommendations for future research. The goal is to offer insights that can inform the development of effective, equitable, and ethical AI-driven learning environments in ELT, contributing to a future where technology enhances, rather than replaces, the essential role of human educators (Mohamed, 2024).

METHOD

Design

This study adopts a systematic literature review approach following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009). Further details are provided in Figure 1. A qualitative approach is employed, with a focus on interpretive analysis of existing literature to explore emerging themes and patterns related to the use of Artificial Intelligence (AI) in English language teaching (ELT). This method allows for a comprehensive understanding of AI's applications and pedagogical implications, particularly through a thematic analysis that highlights key trends and insights across studies (Clarke & Tho, 2017).

Data Collection

The selection process targeted journal articles indexed in Scopus and Web of Science (WoS) to ensure high-quality and reputable sources. The inclusion criteria specified studies published in the last decade that focus on AI tools and applications in English language learning. Articles were included if they addressed specific AI-driven technologies such as chatbots, intelligent tutoring systems, or language-assistant tools aimed at enhancing English language acquisition. Exclusion criteria included papers that solely addressed other languages or generalized technology applications without a distinct AI focus in ELT. Data collection involved systematically searching databases using keywords like "AI in English Language Learning," "AI tools for ELT," and "AI applications in language education."

The initial search results were then screened for relevance by title and abstract, followed by a full-text review to apply inclusion and exclusion criteria strictly. The inclusion criteria if

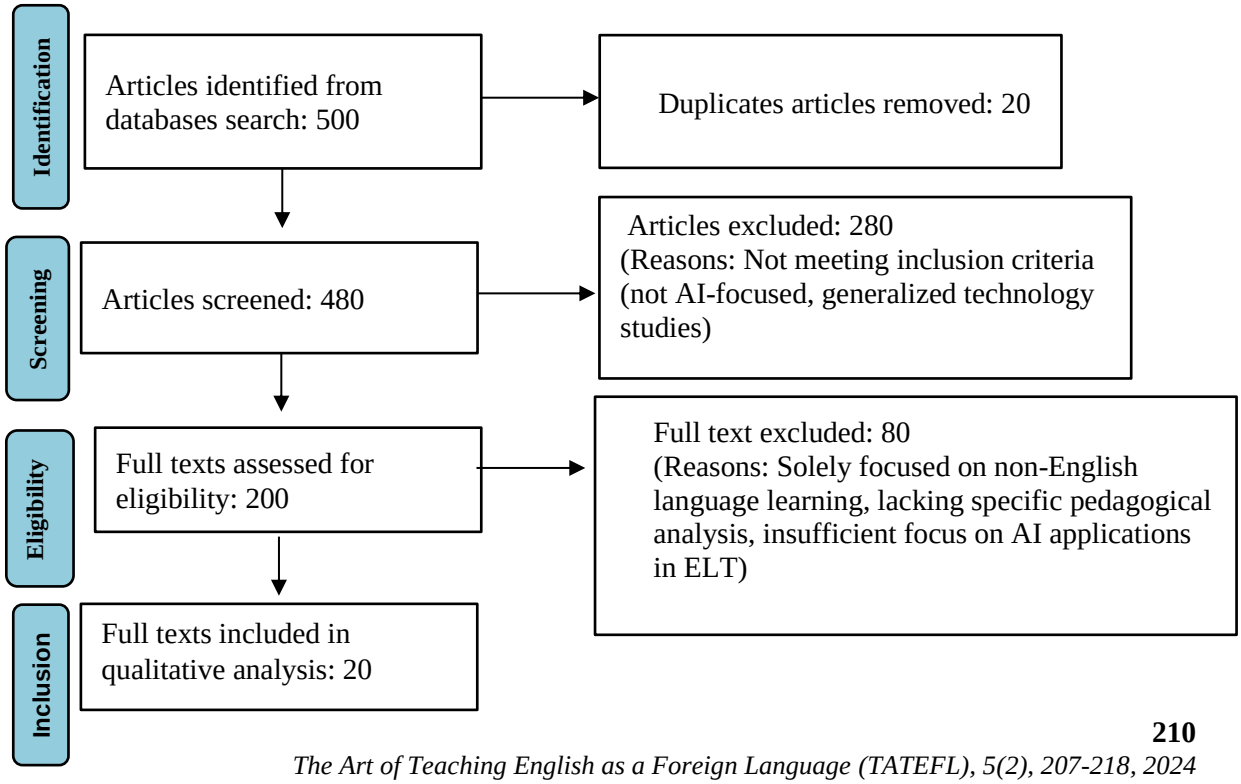
articles explicitly addressed AI applications in ELT, were peer-reviewed, and published in journals indexed in Scopus or WoS. They also needed to focus on specific AI tools, such as chatbots or intelligent tutoring systems, and offer insights into their pedagogical applications and outcomes. Only articles published within the last decade (2014–2024) were considered to ensure relevance to current trends. The Exclusion criteria if the article addressed generalized educational technologies without an AI focus, concentrated on languages other than English, or lacked detailed pedagogical analysis of AI applications. Conference proceedings, grey literature, and articles focusing solely on technical aspects of AI were also excluded.

The rationale for the number of Included Articles is that 500 initial articles were identified, and the application of rigorous criteria narrowed this to 120 articles. This relatively high number reflects the diversity of AI tools and approaches in ELT and the broad scope of the research questions. The final set of articles ensures a comprehensive analysis of recurring trends, applications, and challenges.

Data Analysis

The selected articles were analyzed through qualitative thematic analysis, a method that enables the identification and categorization of recurring themes and patterns in the literature (Thomas & Harden, 2008). This analysis helped distil key insights regarding the pedagogical benefits and challenges of AI in ELT, which are presented in the findings. Given the complexities involved, this systematic review addresses three central questions: First, what AI tools and applications are currently available and specifically developed for English language learning? Second, how are these AI applications influencing pedagogical practices and learner outcomes? Third, what are the advantages, ethics, and challenges associated with using AI in ELT? Addressing these questions provides a comprehensive view of AI's capabilities and limitations, offering valuable insights for educators, administrators, and policymakers involved in English language education.

Figure 1. PRISMA flow diagram of the present study



FINDINGS AND DISCUSSIONS

This section presents the analysis outputs for the reviewed articles, which cover four emerging themes: (a) Types of AI Tools in ELT; (b) Applications of AI in Learning; (c) Teacher and Learner Perspectives; (d) Ethical and Pedagogical Considerations.

Table 1. Table summarizing the systematic review

Theme	Author(s)	Findings	Study Implications
(a) Types of AI Tools in ELT	Tolstykh & Oshchepkova (2024)	Chatbots like Replica and Duolingo's AI-powered conversational agents simulate authentic dialogue, fostering conversational skills through NLP algorithms.	Provides learners with interactive and low-stress environments to practice conversational skills, addressing limitations of traditional instruction and access to native speakers.
	Dennis (2024)	Speech recognition technologies, such as Google's Speech-to-Text API, enhance pronunciation by providing immediate feedback on fluency, intonation, and phonetics.	Supports individualized, self-paced pronunciation learning, benefiting students without native-speaking teachers.
	Liakina & Liakin (2023)	AI Speak provides detailed real-time feedback on pronunciation accuracy, pitch, and rhythm.	Encourages iterative practice and learner self-awareness in improving oral fluency.
(b) Applications of AI in Learning	Giray (2024)	Grammarly enhances writing proficiency by detecting grammar issues, offering stylistic suggestions, and providing vocabulary recommendations.	Enables learners to refine writing skills through real-time feedback, promoting confidence and skill development in academic and professional contexts.
	Gu (2024)	Spaced repetition algorithms in apps like Quizlet optimize vocabulary retention.	Facilitates systematic vocabulary acquisition, enabling learners to expand and solidify their lexicon effectively.
(c) Teacher and Learner Perspectives	Luckin & Cukurova (2019)	AI tools automate grading and generate insights on learner progress, reducing teacher workload while enabling focus on lesson planning and personalized teaching.	Supports efficient teaching practices and encourages data-driven pedagogical approaches, but necessitates training for effective implementation.
	Chakravarti (2023)	Teachers report feeling underprepared to integrate AI tools effectively due to a lack	Professional training initiatives are required to address this gap, ensuring educators can leverage

		of professional development opportunities.	AI's potential fully in language instruction.
(d) Ethical and Pedagogical Considerations	Amin (2023)	Algorithmic bias in AI tools can marginalize learners with non-standard accents or linguistic variations.	Developers must address dataset diversity in AI training to ensure inclusivity and fairness in educational applications.
	Bertino et al. (2019)	Data privacy concerns arise from sensitive learner data collection, such as voice recordings and behavioral patterns.	Establishing transparent data usage policies and secure storage mechanisms is essential to maintain trust and safeguard user privacy.

a) Types of AI Tools in ELT

AI technologies in ELT represent a dynamic and evolving array of tools designed to meet the diverse needs of language learners. Chatbots, for instance, have become increasingly popular for fostering conversational skills. Tools like Replica and Duolingo's AI-powered conversational agents simulate authentic human dialogue, providing learners with real-time opportunities to practice the language in a low-stress environment (Tolstykh & Oshchepkova, 2024). These chatbots use natural language processing (NLP) algorithms to interpret input and generate contextually relevant responses, creating an interactive experience that closely mirrors human conversation.

Speech recognition technology is another significant AI innovation, exemplified by tools like Google's Speech-to-Text API. These tools facilitate pronunciation improvement by providing instant feedback on phonetic accuracy, fluency, and intonation (Dennis, 2024). Such immediate and objective evaluation is particularly beneficial for learners who lack access to native-speaking teachers. Moreover, this technology supports self-paced learning, allowing users to identify and address specific pronunciation challenges in real time.

These AI tools collectively address a broad spectrum of ELT needs, ranging from basic vocabulary acquisition to advanced conversational fluency. Their integration into learning environments has expanded the possibilities for personalized and adaptive language education, bridging gaps in traditional instruction methods.

b) Applications of AI in Learning

The applications of AI in ELT are remarkably diverse, catering to skill enhancement in areas such as speaking, writing, grammar correction, and vocabulary acquisition. AI-powered platforms like Grammarly exemplify the potential for improving writing proficiency. Grammarly uses advanced algorithms to detect grammatical errors, suggest stylistic improvements, and provide contextual vocabulary recommendations (Giray, 2024). This feedback is immediate, empowering learners to refine their writing in real time and promoting greater confidence in their language use.

For vocabulary acquisition, AI-driven flashcard apps like Quizlet employ spaced repetition algorithms to optimize memory retention. Spaced repetition ensures that learners review terms at intervals scientifically calculated to reinforce long-term recall (Gu, 2024). This

approach not only enhances vocabulary acquisition but also helps learners build a more active and functional lexicon over time.

AI Speak, an intelligent pronunciation training system, exemplifies the role of AI in developing oral fluency. This tool provides detailed feedback on pronunciation accuracy, pitch, and rhythm, enabling learners to make targeted improvements (Liakina & Liakin, 2023). By offering real-time analytics and actionable insights, AI Speak fosters greater self-awareness among learners, encouraging iterative practice and mastery of spoken English.

AI applications are also making strides in grammar correction. Platforms such as WriteLab combine machine learning algorithms with linguistic expertise to provide nuanced feedback on sentence structure, coherence, and tone. This enables learners to produce polished written work that aligns with academic and professional standards. These AI applications underscore the versatility and scalability of AI in addressing diverse linguistic competencies. By targeting specific skill sets, they enable learners to achieve measurable progress in their language proficiency.

c) Teacher and Learner Perspectives

AI integration in ELT has elicited varied responses from teachers and learners, highlighting both its benefits and challenges. For educators, AI tools are particularly valuable in automating repetitive tasks, such as grading and feedback generation. This automation not only reduces workload but also allows teachers to devote more time to designing engaging and meaningful lessons (Luckin & Cukurova, 2019). Moreover, AI systems provide detailed insights into learner progress, enabling teachers to identify areas of difficulty and tailor their instructional strategies accordingly.

However, the adoption of AI tools has also exposed a skills gap among educators. Many teachers report feeling underprepared to use these technologies effectively, underscoring the need for targeted professional development programs (Chakravarti, 2023). Without adequate training, educators may struggle to integrate AI tools into their pedagogical practices, limiting their potential impact.

Learners, on the other hand, appreciate the interactive and personalized nature of AI tools. Features such as adaptive learning pathways, instant feedback, and gamified content are particularly appealing, as they align with the preferences and expectations of digitally native learners. Nonetheless, concerns about the accuracy of AI-generated feedback and the potential for over-reliance on technology remain prevalent. Learners may develop a dependence on AI tools, which could hinder the development of critical thinking and problem-solving skills essential for language acquisition.

d) Ethical and Pedagogical Considerations

The ethical implications of AI adoption in ELT warrant careful consideration. One of the most pressing concerns is algorithmic bias, which can perpetuate stereotypes and reinforce inequities in language education (Amin, 2023). For example, AI tools trained on datasets that lack linguistic diversity may struggle to accommodate non-standard accents, dialects, or regional language variations. This limitation can marginalize learners from underrepresented linguistic backgrounds.

Data privacy is another critical issue. Many AI tools require access to sensitive user information, such as voice recordings, written texts, and behavioral data, to deliver personalized experiences. Ensuring the secure storage and ethical use of this data is essential to protect user privacy and maintain trust in AI technologies (Bertino et al., 2019).

From a pedagogical perspective, the alignment of AI tools with specific learning objectives is crucial. Tools that prioritize engagement over educational outcomes may undermine the effectiveness of instruction. For instance, gamified applications that focus solely on rote memorization risk neglecting higher-order thinking skills, such as analysis, synthesis, and evaluation. Educators must critically evaluate AI tools to ensure that their adoption aligns with broader pedagogical goals.

The integration of artificial intelligence (AI) into English language teaching (ELT) has demonstrated substantial potential to enhance learning outcomes, offering innovative tools and strategies that promote engagement, personalized instruction, and language proficiency. However, challenges such as accessibility, teacher preparedness, ethical considerations, and cultural sensitivity remain critical areas for further exploration. This discussion synthesizes the findings from the review, highlighting opportunities and limitations while proposing strategies for optimized integration. AI tools such as Duolingo and Rosetta Stone effectively engage learners through gamification and interactivity. By leveraging adaptive algorithms, these platforms create personalized learning paths, offering tailored challenges that maintain interest and motivation (Fountoulakis, 2024). For example, Duolingo adjusts difficulty levels based on individual performance, ensuring learners remain within their zone of proximal development. These gamified experiences not only sustain learner attention but also foster a sense of achievement through progress tracking and reward systems. Such features make AI-powered platforms particularly appealing for younger learners and self-directed study contexts.

Personalized instruction is a cornerstone of AI's contribution to ELT. Tools like Grammarly and WriteLab analyze writing samples to identify specific errors, providing immediate, detailed feedback that addresses individual weaknesses (Giray, 2024). Similarly, AI-driven tutoring systems adapt content delivery to suit diverse learning paces and styles, ensuring that learners receive instruction aligned with their proficiency levels. This level of customization facilitates differentiated instruction, empowering learners to progress at their own pace and focusing on areas requiring improvement.

The benefits of AI are particularly evident in improving speaking and writing skills. Speech recognition software, such as Google’s AI-powered language models, allows learners to practice pronunciation, receive corrections, and refine their fluency through real-time feedback (Aryanti & Santosa, 2024; Vanisree et al., 2024). Additionally, platforms that incorporate natural language processing (NLP) enhance writing proficiency by analyzing sentence structures, grammar, and coherence. These tools support iterative learning, enabling learners to make incremental improvements based on constructive feedback.

Despite these advantages, the review underscores persistent challenges. Accessibility remains a significant issue, particularly in resource-constrained environments where access to devices, stable internet connections, and institutional support may be limited (Didas et al., 2024). These disparities exacerbate educational inequities, disproportionately affecting

learners in rural or underprivileged regions. Addressing these barriers requires targeted investments in digital infrastructure and policy interventions to ensure equitable access to AI tools.

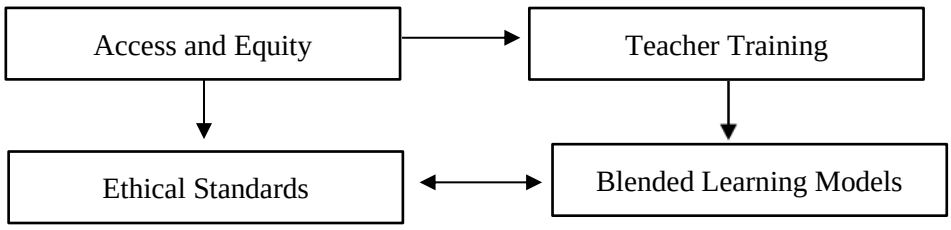
The effectiveness of AI tools in ELT hinges on teacher readiness to integrate these technologies into pedagogical practices. Many educators lack the necessary training to utilize AI tools effectively, often perceiving them as supplementary rather than integral to the learning process (Chakravarti, 2023). Professional development programs are essential to bridge this gap, equipping teachers with the skills to navigate AI platforms, interpret data analytics, and design blended learning environments. Such initiatives should focus on fostering digital literacy, pedagogical alignment, and practical application of AI tools.

Ethical concerns, including data privacy and algorithmic biases, present significant challenges to AI integration. Many AI tools collect and analyze sensitive learner data, raising questions about transparency, consent, and data security (Bertino et al., 2019). Furthermore, cultural insensitivity in AI-driven content can undermine learning outcomes, particularly for learners from diverse sociolinguistic backgrounds (Ulla et al., 2024). For instance, language models trained predominantly on Western-centric datasets may fail to accommodate regional linguistic variations, leading to a disconnect between learners and instructional material. Developers must prioritize inclusivity by incorporating diverse linguistic datasets and ensuring transparency in AI systems.

The review highlights gaps in longitudinal studies examining the sustained impact of AI on language proficiency. Most existing research focuses on short-term outcomes, neglecting the long-term efficacy and adaptability of AI tools. Additionally, there is a limited exploration of blended learning environments, which combine AI-driven personalization with collaborative classroom activities. Such hybrid approaches have the potential to balance technological innovation with human interaction, fostering holistic language development.

To address the identified challenges and optimize the benefits of AI in ELT, the following framework is proposed:

Figure 2. The proposed AI Integration in the English Language learning Framework



This framework underscores the interplay between technological innovation and human-centric teaching practices, paving the way for a more inclusive and effective AI-enhanced language learning environment. 1) Access and Equity: Institutions must invest in digital infrastructure and policy initiatives to ensure equitable access to AI tools. Subsidized devices, internet provision, and community-based digital literacy programs can mitigate accessibility barriers. 2) Teacher Training and Support: Professional development programs should be implemented to equip educators with the skills needed to integrate AI effectively. Training should emphasize practical application, data interpretation, and blended learning

design. 3)Ethical Standards: Developers and institutions must prioritize ethical considerations, ensuring transparency in data usage, mitigating biases, and fostering cultural inclusivity. Policies should be established to safeguard learner data and promote responsible AI practices. 4) Blended Learning Models: Hybrid approaches that combine AI-driven personalization with collaborative, communicative classroom activities should be promoted. This model balances the efficiency of AI tools with the interpersonal dynamics of traditional learning.

While AI tools offer transformative potential, over-reliance on technology may diminish opportunities for critical thinking, creativity, and collaboration essential components of language acquisition. To mitigate these risks, institutions should adopt a balanced approach, integrating AI as a complement to traditional pedagogical methods rather than a replacement. Future research should prioritize longitudinal studies to assess the sustained impact of AI tools on language learning outcomes. Additionally, cross-cultural studies are necessary to explore AI's adaptability to diverse educational contexts. Collaborative efforts between educators, developers, and policymakers are essential to refine AI tools and foster inclusive, effective, and ethical AI-driven language education.

CONCLUSION

The integration of AI into English language teaching holds significant promise for enhancing learning engagement, personalization, and language skill development. This review highlights that AI tools like Duolingo's AI-powered conversational agents, Grammarly, and Google's Speech-to-Text API positively impact speaking and writing proficiency, creating more interactive and tailored learning experiences. However, several challenges, such as accessibility issues, teacher readiness, and ethical concerns regarding data privacy, need to be addressed to realize AI's full potential in ELT.

The proposed framework emphasizes access, teacher support, ethical standards, and blended learning to guide sustainable AI integration. To improve teacher readiness, the framework suggests targeted professional development programs, including hands-on workshops and resources for integrating AI tools into lesson plans. For ethical standards, it advocates for robust data privacy measures, such as secure data storage protocols and transparent consent processes for learners. This framework can serve as a foundation for educators, developers, and policymakers, ensuring AI implementation aligns with pedagogical and ethical goals.

As AI technologies continue to evolve, future research should focus on longitudinal studies, cross-cultural applications, and blended models that balance AI-driven learning with human interaction. By addressing these specific challenges through a well-structured framework, stakeholders can better harness AI's potential to create equitable and impactful learning experiences. This review provides insights for creating an AI-enhanced, inclusive, and ethical English language learning environment, advancing both technology adoption and effective language education practices.

REFERENCES

AbuSahyon, A. S. A. E., Alzyoud, A., Alshorman, O., & Al-Absi, B. (2023). AI-driven

Technology and Chatbots as Tools for Enhancing English Language Learning in the Context of Second Language Acquisition: A Review Study. *International Journal of Membrane Science and Technology*, *10*(1), 1209-1223. https://doi.org/10.15379/ijmst.v10i1.2829

Amin, M. Y. M. (2023). AI and chat GPT in language teaching: Enhancing EFL classroom support and transforming assessment techniques. *International Journal of Higher Education Pedagogies*, *4*(4), 1-15. https://doi.org/10.33422/ijhep.v4i4.554

Aryanti, R. D., & Santosa, M. H. (2024). A systematic review on artificial intelligence applications for enhancing EFL students' pronunciation skill. *The Art of Teaching English as a Foreign Language (TATEFL)*, *5*(1), 102–113. https://doi.org/10.36663/tatefl.v5i1.718

Bertino, E., Kundu, A., & Sura, Z. (2019). Data transparency with blockchain and AI ethics. *Journal of Data and Information Quality (JDIQ)*, *11*(4), 1-8. https://doi.org/10.1145/3312750

Chakravarti, S. (2023). *Innovations in teacher development, personalized learning, and upskilling the workforce*. IGI Global. https://doi.org/10.4018/978-1-6684-5518-0

Clarke, V., & Braun, V. (2017). Thematic analysis. *The journal of positive psychology*, *12*(3), 297-298. https://doi.org/10.1080/17439760.2016.1262613

Dennis, N. K. (2024). Using AI-powered speech recognition technology to improve English pronunciation and speaking skills. *IAFOR Journal of Education*, *12*(2), 107-126.

Didas, M., Chali, F. H., & Noe, E. (2024). Facets related to challenges and prospects of cloud computing adoption in resource-constrained settings: Systematic review analysis. *International Journal of Advanced Computer Research*, *14*(66), https://doi.org/10.19101/IJACR.2023.1362017

Fountoulakis, M. S. (2024). Evaluating the impact of AI tools on language proficiency and intercultural communication in second language education. *International Journal of Second and Foreign Language Education*, *3*(1), 12-26. https://doi.org/10.33422/ijsfle.v3i1.768

Giray, L. (2024). "Don't Let Grammarly Overwrite Your Style and Voice:" Writers' advice on using Grammarly in writing. *Internet Reference Services Quarterly*, *28*(3), 1-11. https://doi.org/10.1080/10875301.2024.2344762

Gu, J. (2024). Digital tools in language learning: optimizing memory and attention for college students. *International Journal of Human–Computer Interaction*, 1-11. https://doi.org/10.1080/10447318.2024.2400384

Jegede, O. O. (2024). Artificial intelligence and English language learning: Exploring the roles of AI-driven tools in personalizing learning and providing instant feedback. *Universal Library of Languages and Literatures*, *1*(2), 6-19. https://doi.org/10.70315/uloap.ullli.2024.0102002

Kessler, G. (2018). Technology and the future of language teaching. *Foreign language annals*, *51*(1), 205-218. https://doi.org/10.1111/flan.12318

Liakina, N. & Liakin, D. (2023). Speech technologies and pronunciation training: What is the potential for efficient corrective feedback?. In U. Kickhöfel Alves & J. Alcantara de

Albuquerque (Ed.), *Second language pronunciation: Different approaches to teaching and training* (pp. 287-312). Berlin, Boston: De Gruyter Mouton. https://doi.org/10.1515/9783110736120-011

Luckin, R., & Cukurova, M. (2019). Designing educational technologies in the age of AI: A learning sciences-driven approach. *British Journal of Educational Technology*, *50*(6), 2824-2838. https://doi.org/10.1111/bjet.12861

Miao, F., Holmes, W., Huang, R., & Zhang, H. (2021). *AI and education: A guidance for policymakers*. Unesco Publishing.

Mishra, D. R., & Varshney, D. (2024). Comprehensive analysis of human and AI task allocation in the education sector: Defining futuristic roles and responsibilities. *World Journal of Advanced Research and Reviews*, *22*(3), 1883–1893. https://doi.org/10.30574/wjarr.2024.22.3.1949

Mohamed, M. S. P. (2024). Exploring ethical dimensions of AI-enhanced language education: A literature perspective. *Technology in Language Teaching & Learning*, *6*(3), 1-11. https://doi.org/10.29140/tltl.v6n3.1813

Moher, D., A. Liberati, J. Tetzlaff, and D. Altman. (2009). Preferred reporting items for systematic reviews and metaanalyses: The PRISMA statement. *PLoS medicine*, *6*(7). https://doi.org/10.1371/journal.pmed.1000097

Sajja, R., Sermet, Y., Cikmaz, M., Cwiertny, D., & Demir, I. (2024). Artificial intelligence-enabled intelligent assistant for personalized and adaptive learning in higher education. *Information*, *15*(10), 596. https://doi.org/10.3390/info15100596

Song, C., & Song, Y. (2023). Enhancing academic writing skills and motivation: assessing the efficacy of ChatGPT in AI-assisted language learning for EFL students. *Frontiers in Psychology*, *14*. https://doi.org/10.3389/fpsyg.2023.1260843

Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology*, *8*, 45. https://doi.org/10.1186/1471-2288-8-45

Tolstykh, O. M., & Oshchepkova, T. (2024). Beyond ChatGPT: roles that artificial intelligence tools can play in an English language classroom. *Discover Artificial Intelligence*, *4*(1), 60. https://doi.org/10.1007/s44163-024-00158-9

Ulla, M. B., Advincula, M. J. C., Mombay, C. D. S., Mercullo, H. M. A., Nacionales, J. P., & Entino-Señorita, A. D. (2024). How can GenAI foster an inclusive language classroom? A critical language pedagogy perspective from Philippine university teachers. *Computers and Education: Artificial Intelligence*, *7*. https://doi.org/10.1016/j.caeai.2024.100314

Vanisree, M., Ranjan, M. J., Dhanavel, G., Sekhar, K. C., Babu, S. G., & Sharma, S. (2024). Role of artificial intelligence in facilitating English language learning for non-native speakers. *Nanotechnology Perceptions, 20,* 1263–1272. https://doi.org/10.62441/nano-ntp.v20iS9.102