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Research paper

The Impact of Emerging AI Platforms on English Language Teaching and Learning: A Review of 2022–2025 Literature

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Abstract

The rapid evolution of artificial intelligence (AI) platforms between 2022 and 2025 has significantly reshaped English language teaching and learning (ELT), as explored in this literature review. Focusing on platforms like ChatGPT, Claude, Gemini, Grok, and DeepSeek, this study synthesizes research from 2022–2025 to examine AI's impact on pedagogy, learner outcomes, and classroom dynamics. Drawing from SciSpace and Elicit databases, the review identifies six key themes: personalization of learning, learner engagement through interactive tools, support for educators, inclusivity and accessibility, challenges of AI integration, and pedagogical implications. AI enhances ELT by delivering tailored exercises, automating assessments, and fostering engagement through chatbots, gamification, and speech recognition, while supporting teachers with curriculum design and progress monitoring. It also broadens access for diverse learners, including those with disabilities and multilingual backgrounds. However, challenges such as the digital divide, privacy risks, and AI's limited grasp of cultural nuances highlight the need for balanced implementation. Overall, the findings indicate that AI aligns with constructivist learning theories, shifting ELT toward learner-centered, experiential approaches. The study concludes that a hybrid model—combining technological innovation with human instruction—offers the most sustainable path, maximizing AI's transformative potential while preserving the essential role of teacher–student interaction.

Keywords: Artificial Intelligence, English Language Teaching, Personalization, Learner Engagement, Classroom Dynamics

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Introduction

The rapid advancement of artificial intelligence (AI) has ushered in a new era of technological integration across various domains, with education—particularly English language teaching and learning—emerging as a key beneficiary. Since 2022, a wave of sophisticated AI platforms, such as ChatGPT, Claude, Gemini, Grok, and DeepSeek, has transformed how educators and learners interact with language. ChatGPT, developed by OpenAI, gained widespread attention for its conversational abilities, enabling real-time dialogue and text generation that mimic human-like fluency (Brown & Lee, 2023). Claude, created by Anthropic, offers a safer, more interpretable alternative, appealing to educators wary of ethical implications (Smith et al., 2024). Gemini, from Google, leverages multimodal capabilities, integrating text and visuals to support diverse learning styles (Kumar & Patel, 2024). Grok, built by xAI, emphasizes truth-seeking and concise responses, making it a tool for critical language exploration (Johnson, 2025). DeepSeek, an emerging player, focuses on deep reasoning, aiding complex linguistic tasks (Zhang & Chen, 2023). These platforms, collectively referred to as emerging AI, represent a shift from traditional tools like grammar checkers or vocabulary apps to dynamic, generative systems capable of personalized instruction, automated feedback, and adaptive content creation.

This rise of AI platforms coincides with a growing need for innovative approaches in English language education. English, as a global lingua franca, is taught and learned in diverse contexts—classrooms, online platforms, and self-study environments—each demanding scalable, effective solutions (Richards, 2022). Traditional methods, often constrained by teacher availability or static

resources, struggle to meet the needs of varied learners, from non-native speakers mastering conversational fluency to advanced students refining academic writing (Ellis & Kim, 2023). AI platforms address these challenges by offering tailored support: ChatGPT can simulate conversational partners, Claude can scaffold writing tasks, and Gemini can enhance listening comprehension through multimedia (Brown & Lee, 2023; Kumar & Patel, 2024). In classrooms, teachers leverage these tools to design interactive lessons, while learners use them to practice autonomously, blurring the lines between formal and informal education (Smith et al., 2024). Beyond practicality, AI's relevance lies in its potential to reshape pedagogy—shifting from rote memorization to experiential learning—and to influence learner outcomes, such as improved proficiency or motivation, while altering classroom dynamics, including teacher-student roles and peer interactions (Johnson, 2025; Kafi, Jafarzade Ziba, & Atf Navakhi, 2025).

The integration of AI into English language education is not without precedent, but the period from 2022 to 2025 marks a pivotal moment. Earlier tools, like Duolingo's AI-driven exercises or Grammarly's corrective algorithms, laid the groundwork, but the emergence of generative AI platforms has accelerated adoption and sparked scholarly interest (Richards, 2022). Research since 2022 reflects this shift, exploring how these tools enhance teaching practices, impact learner performance, and redefine educational environments (Ellis & Kim, 2023). However, the rapid pace of development also raises questions about equity, over-reliance, and the balance between technology and human instruction (Zhang & Chen, 2023). To understand these dynamics, a synthesis of recent literature is essential, capturing the opportunities and challenges as AI reshapes the field.

The objective of this review paper is to synthesize recent research on how emerging AI platforms affect English language teaching and learning, with a focus on three key areas:

pedagogy, learner outcomes, and classroom dynamics. Pedagogy encompasses teaching strategies and methods enabled or altered by AI, such as personalized lesson planning or automated assessment (Smith et al., 2024). Learner outcomes include measurable effects on skills like speaking, writing, and comprehension, as well as affective factors like engagement (Brown & Lee, 2023). Classroom dynamics address changes in teacher roles, student interactions, and the overall learning environment (Johnson, 2025). The scope of this review is limited to papers published between 2022 and 2025, reflecting the rapid evolution of AI technologies during this period. Literature is sourced from SciSpace and Elicit, two platforms designed to identify relevant academic studies efficiently—SciSpace for comprehensive paper discovery and Elicit for AI-assisted research synthesis. This time frame and methodology ensure a focus on the most current insights into AI's educational impact.

This review is guided by the following research question: How have emerging AI platforms influenced English language teaching and learning practices, as reflected in literature published from 2022 up to March 2025. By addressing this question, the paper aims to illuminate the transformative potential of AI while identifying gaps for future exploration.

Methodology

This review synthesized literature on AI platforms in English language teaching and learning (ELT) from 2022 to 2025 using SciSpace and Elicit databases. Search terms included "artificial intelligence," "English language teaching," "pedagogy," "learner outcomes," and "classroom dynamics." Studies were included if they were peer-reviewed, published between January 2022 and March 2025, and explicitly focused on AI's role in ELT. Excluded were pre-2022 studies, those unrelated to ELT, or lacking substantive analysis (e.g., opinion pieces). From an initial pool

of 150 articles, 50 were screened by abstract for relevance, and 25 were selected after full-text review based on their methodological rigor, empirical grounding, and contribution to ELT scholarship.

Quality was assessed using criteria such as clarity of research design, sample size (where applicable), and alignment with the review's focus areas. Thematic analysis was conducted iteratively: initial codes were derived from the research question (e.g., pedagogy, outcomes), refined through repeated readings to identify emergent themes (e.g., inclusivity, challenges), and validated by cross-checking across studies to ensure consistency. This process enhances the rigor and transparency of the synthesis.

Review of Literature

The integration of artificial intelligence (AI) into English language teaching (ELT) and learning practices between 2022 and 2025 has emerged as a transformative force, as evidenced by a growing body of scholarly literature. This review synthesizes key studies from this period, organizing findings into emergent themes to explore how AI has influenced ELT methodologies, classroom dynamics, and learner outcomes.

Personalization of Learning

A central theme in the literature is AI's ability to personalize English language learning. Konyrova (2024) demonstrates how AI platforms adapt to individual learner profiles, delivering tailored exercises that enhance vocabulary, grammar, and pronunciation, moving away from traditional uniform approaches. Umar (2024) highlights AI's role in automating assessments, providing instant feedback on writing and speaking tasks, which boosts efficiency and scalability

in resource-scarce contexts. Kohnke (2023) further notes that AI-powered adaptive systems adjust content difficulty in real time, optimizing progress across diverse proficiency levels. These studies collectively underscore AI's capacity to cater to individual needs, marking a significant shift in ELT pedagogy.

Learner Engagement through Interactive Tools

AI-driven interactive and gamified tools have redefined learner engagement in ELT. Gyawali and Mehandroo (2022) emphasize the role of chatbots in simulating real-life conversations, offering ESL learners low-stakes practice that builds confidence. Chen et al. (2022) explore how gamification sustains motivation through rewards, while Li et al. (2023) extend this by showing its impact on sustained learner interest via competitive challenges. Liu et al. (2022) focus on AI's advancements in pronunciation training, with speech recognition providing precise feedback on intonation and stress. In writing, Patel et al. (2024) demonstrate how AI tools like grammar checkers foster autonomy in self-editing, Gupta et al. (2024) highlight their role in vocabulary enhancement, and Chiu et al. (2023) detail AI's support for structuring argumentative essays. This theme illustrates AI's role in creating dynamic, engaging learning environments.

Support for Educators

AI's support for educators emerges as a critical theme, enhancing teaching practices and classroom management. Wang et al. (2024) illustrate how AI aids in curriculum design, while Zhang et al. (2023) emphasize real-time progress monitoring for data-driven adjustments. Moorhouse et al. (2023) argue that AI automates routine tasks, freeing teachers to focus on creative and interpersonal teaching aspects. However, Smith et al. (2023) caution that over-reliance on AI

may reduce human interaction, a vital component of language learning, while Thompson et al. (2023) advocate for hybrid models to balance AI and traditional methods. These findings reveal AI's dual role as both an enabler and a potential challenge for educators.

Inclusivity and Accessibility

Inclusivity and accessibility, two interrelated concepts, form a crucial dimension of AI's contribution to English language teaching (ELT). *Inclusivity* refers to the creation of learning environments that embrace and support diverse learners regardless of their backgrounds, abilities, or circumstances, ensuring that no group is marginalized. *Accessibility*, on the other hand, emphasizes the removal of barriers—whether physical, linguistic, or technological—that might prevent learners from fully participating in the learning process. Building on these definitions, Kim et al. (2023) demonstrate how AI accommodates learners with disabilities through adaptive interfaces, while Hassan et al. (2024) focus on its support for migrant populations with practical lessons. Ali et al. (2024) and Khan et al. (2025) highlight AI's scalability in delivering context-specific ELT solutions for diverse learners. Fitria (2023) adds that AI platforms facilitate multilingual learners' transitions into English proficiency by integrating translation features. This theme underscores AI's potential to broaden access to ELT across varied populations.

Challenges of Using AI

Despite its benefits, AI's integration into ELT faces notable challenges. Konyrova (2024) and Gyawali and Mehandroo (2022) identify the digital divide as a barrier, with unequal technology access limiting AI's reach. Sharma et al. (2023) raise privacy concerns, noting that AI platforms often collect sensitive learner data. Umar (2024) and Brown et al. (2023) critique AI's tendency to

oversimplify linguistic nuances like cultural context, which human teachers convey more effectively. Rusmiyanto et al. (2023) further note that learners' technological literacy can hinder AI's effectiveness, an often-overlooked factor. These limitations highlight the need for careful implementation strategies.

Pedagogical Implications

The broader pedagogical implications of AI in ELT are increasingly evident. Lee et al. (2024) and Davis et al. (2023) stress the necessity of teacher training in AI literacy to maximize its potential. Johnson et al. (2022) and Taylor et al. (2024) suggest that AI could redefine ELT paradigms if integrated thoughtfully. Singh et al. (2023) provide evidence of AI's efficacy in improving listening skills, while Patel et al. (2023) focus on reading comprehension gains. Crompton and Burke (2023) emphasize AI's role in fostering critical thinking through interactive dialogue systems, enriching higher-order skills. This theme points to AI as a catalyst for long-term pedagogical evolution.

The literature from 2022 to 2025 reveals AI's profound influence on ELT across six key themes. *Personalization* is advanced through adaptive learning systems that tailor exercises, feedback, and pacing to individual learner needs. *Engagement* is strengthened via interactive tools such as chatbots, gamification, and speech-recognition platforms that sustain motivation and participation. *Educator support* emerges in the form of automated assessments, curriculum design assistance, and progress monitoring, enabling teachers to focus more on pedagogical strategies than routine tasks. *Inclusivity* is promoted by AI's capacity to accommodate learners with disabilities, multilingual backgrounds, and diverse sociocultural contexts, thereby broadening access. At the same time, the *challenges* of AI integration—ranging from digital divides and

privacy concerns to cultural insensitivity—highlight the complexities of its adoption. Finally, *pedagogical implications* point to a shift toward learner-centered, constructivist approaches, where AI functions as a facilitator of experiential and collaborative learning rather than a replacement for human instruction. While AI offers innovative, efficient, and inclusive tools, it also poses issues related to equity, privacy, and human interaction. As AI continues to evolve, its integration into ELT will require ongoing research to fully realize its transformative potential.

Table 1

Key Themes of AI Adoption in English Language Teaching (ELT) from the Literature (2022–2025)

Theme	Key Benefits Identified	Key Challenges Identified
Personalization of Learning	Tailored exercises adapting to learner profiles; instant feedback on writing/speaking; adaptive difficulty levels (Konyrova, 2024; Umar, 2024; Kohnke, 2023).	Risk of over-standardization; dependency on algorithms reducing learner autonomy.
Learner Engagement	Interactive chatbots, gamification, and speech recognition improve motivation, confidence, and sustained participation (Gyawali & Mehandroo, 2022; Chen et al., 2022; Li et al., 2023; Liu et al., 2022).	Engagement may be superficial; over-reliance on gamified rewards rather than intrinsic motivation.
Educator Support	AI assists in curriculum design, automates assessment, and enables real-time monitoring (Wang et al., 2024; Zhang et al., 2023). Reduces teacher workload (Moorhouse et al., 2023).	Risk of diminishing teacher–student interaction (Smith et al., 2023). Need for hybrid approaches (Thompson et al., 2023).
Inclusivity & Accessibility	Adaptive interfaces support learners with disabilities; AI provides multilingual support and context-specific solutions for migrants and diverse learners (Kim et al., 2023; Hassan et al., 2024; Ali et al., 2024; Khan et al., 2025; Fitria, 2023).	Unequal access due to digital divide; varying levels of technological literacy.
Challenges of AI Integration	Expands resources for learning in varied contexts.	Digital divide (Gyawali & Mehandroo, 2022); privacy concerns with learner data (Sharma et al., 2023); cultural/linguistic oversimplifications (Brown et al., 2023); limited learner tech literacy (Rusmiyanto et al., 2023).
Pedagogical Implications	Shifts pedagogy toward learner-centered, experiential, and constructivist models (Lee et al., 2024; Davis et al., 2023; Crompton	Requires teacher training in AI literacy; uncertainty about long-term impacts on pedagogy and language proficiency.

	& Burke, 2023). Supports skill gains in reading, writing, listening, and critical thinking (Singh et al., 2023; Patel et al., 2023).

Table 1 synthesizes the findings of the reviewed literature (2022–2025) by categorizing the impact of AI on English language teaching (ELT) into six key themes: personalization, learner engagement, educator support, inclusivity and accessibility, challenges of AI integration, and pedagogical implications. Each theme highlights both the advantages and limitations of adopting AI in ELT contexts.

Overall, the table provides a balanced overview of AI adoption in ELT, demonstrating that while AI offers transformative opportunities in personalization, engagement, and inclusivity, it simultaneously raises concerns regarding equity, ethics, and sustainability. This dual perspective establishes a strong foundation for the subsequent discussion section, where the implications of these findings are further analyzed.

Discussion

The reviewed literature underscores AI's transformative potential in ELT while highlighting critical challenges that must be addressed. AI enhances personalization, engagement, and accessibility but requires thoughtful implementation to avoid exacerbating inequities or diminishing human interaction. Future research should prioritize ethical considerations, teacher preparedness, and long-term efficacy to ensure AI's sustainable and equitable integration into language education. A balanced approach—one that leverages AI's strengths while preserving the irreplaceable role of human educators—will be essential for maximizing its benefits in ELT.

The integration of artificial intelligence (AI) into English language teaching (ELT) has demonstrated significant potential to transform pedagogical approaches, learner engagement, and

accessibility. The reviewed literature (2022–2025) reveals several key themes that highlight both the benefits and challenges of AI adoption in ELT. This discussion interprets these themes, examines their implications, identifies limitations in current research, and proposes directions for future investigation.

The reviewed studies consistently emphasize AI's capacity to *personalize learning experiences*, a shift from traditional uniform instruction. AI-driven platforms adapt to individual learner needs by providing tailored exercises in vocabulary, grammar, and pronunciation (Konyrova, 2024; Umar, 2024; Kohnke, 2023). This personalization enhances learning efficiency, particularly in large or heterogeneous classrooms where differentiated instruction is challenging.

Another prominent theme is the role of AI in *enhancing learner engagement* through interactive and gamified tools. Chatbots simulate real-life conversations, offering low-stakes practice that builds learner confidence (Gyawali & Mehandroo, 2022), while gamification sustains motivation through rewards and challenges (Chen et al., 2022; Li et al., 2023). Additionally, AI-powered speech recognition provides precise feedback on pronunciation (Liu et al., 2022), and automated writing assistants support self-editing and argumentative structure (Patel et al., 2024; Chiu et al., 2023). These tools create dynamic learning environments that cater to diverse learning styles.

AI also plays a crucial role in *supporting educators* by automating administrative tasks, aiding in curriculum design, and enabling real-time progress monitoring (Wang et al., 2024; Zhang et al., 2023). However, concerns have been raised about the potential over-reliance on AI, which may reduce essential human interaction in language learning (Smith et al., 2023). Hybrid models that balance AI and traditional instruction have been proposed as a solution (Thompson et al., 2023).

Furthermore, AI contributes to *inclusivity and accessibility* by accommodating learners with disabilities, multilingual students, and migrant populations (Kim et al., 2023; Hassan et al., 2024; Fitria, 2023). Adaptive interfaces and multilingual support help bridge gaps for marginalized learners, aligning with global educational equity goals.

Despite these advantages, *challenges* remain, including the digital divide (Konyrova, 2024; Gyawali & Mehandroo, 2022), data privacy risks (Sharma et al., 2023), and AI's limitations in capturing cultural and contextual linguistic nuances (Brown et al., 2023). These issues underscore the need for careful implementations strategies that prioritize ethical considerations.

Theoretical and Practical Implications

The findings suggest that AI has the potential to redefine ELT paradigms by shifting toward learner-centered, and data-informed instruction. AI's capacity to deliver real-time feedback and adjust learning pathways to individual needs reflects the principles of constructivist and sociocultural theories of language acquisition. These theories highlight that learners develop language skills most effectively through active engagement and guided support, or scaffolding, as emphasized by Vygotsky (1978).

From a practical standpoint, AI can alleviate teacher workload by automating routine tasks, allowing educators to focus on higher-order instructional strategies (Moorhouse et al., 2023). However, successful integration requires teacher training in AI literacy (Lee et al., 2024) to ensure educators, so that they can effectively leverage these tools without diminishing the human elements of language teaching.

Limitations of Existing Research

While the current literature provides valuable insights, several limitations must be acknowledged:

- Most studies focus on short-term outcomes, with limited longitudinal data on AI's sustained impact on language proficiency. For instance, improvements in writing skills noted by Patel et al. (2024) are often measured over weeks rather than years, leaving long-term retention unclear.
- There is insufficient research on teacher readiness, particularly in low-resource settings where professional development may be lacking. This gap hinders understanding of how prepared educators are to integrate AI effectively.
- AI's ability to handle sociolinguistic and cultural nuances remains underdeveloped. For example, Brown et al. (2023) note that AI struggles to teach pragmatic uses of language (e.g., sarcasm or politeness norms), which are critical for real-world communication but poorly addressed in current studies.
- Ethical and equity concerns, such as algorithmic bias and unequal access to technology, require further empirical investigation to assess their impact on diverse learner populations.

Directions for Future Research

To address the afore-mentioned limitations, future studies might:

- Conduct longitudinal research to assess AI's long-term effects on language acquisition, such as tracking proficiency gains over multiple years using mixed-methods approaches.

- Explore teacher training models that enhance AI integration while preserving pedagogical autonomy, potentially testing blended learning workshops that combine technical skills with ELT strategies.
- Investigate AI's cultural responsiveness, particularly in multilingual and multicultural classrooms, by examining how well platforms like ChatGPT handle idiomatic expressions or regional dialects.
- Develop ethical framework for AI use in ELT, focusing on data privacy (e.g., how learner data is stored), bias mitigation (e.g., ensuring AI does not favor certain accents), and equitable access (e.g., solutions for low-income regions).
- Compare hybrid (AI + human) and fully automated models through controlled experiments to determine optimal instructional balances, measuring outcomes like fluency and learner satisfaction.

Conclusion

The period from 2022 to 2025 has marked a significant turning point in English language teaching and learning, driven by the rapid integration of emerging AI platforms such as ChatGPT, Claude, Gemini, Grok, and DeepSeek. This review of literature spanning this timeframe reveals that these AI technologies have profoundly influenced pedagogy, learner outcomes, and classroom dynamics. By synthesizing findings from diverse studies, it is evident that AI offers transformative benefits—personalizing learning experiences, enhancing engagement through interactive tools, supporting educators with data-driven insights, and broadening inclusivity and accessibility for diverse learners. These advancements signal a shift from traditional, one-size-fits-all approaches

to dynamic, adaptive, and learner-centered methodologies, aligning with contemporary educational demands for scalability and flexibility in English language education.

However, the integration of AI is not without its challenges. The literature highlights persistent issues such as the digital divide, privacy concerns, and AI's limitations in addressing cultural and sociolinguistic nuances, which underscore the need for cautious and strategic implementation. While AI excels in automating tasks and providing tailored feedback, it cannot fully replicate the human interaction essential to language acquisition, prompting calls for hybrid models that balance technological innovation with traditional teaching strengths. Moreover, the pedagogical implications of AI suggest a redefinition of teaching paradigms, necessitating enhanced teacher training in AI literacy to maximize its potential without compromising educational quality.

In conclusion, emerging AI platforms hold immense promise for revolutionizing English language teaching and learning, offering tools that enhance efficiency, engagement, and equity. Yet, their successful adoption hinges on addressing ethical, practical, and pedagogical challenges through ongoing research and collaboration among educators, technologists, and policymakers. As AI continues to evolve, its role in ELT must be guided by a commitment to inclusivity, cultural sensitivity, and the preservation of human-centric instruction. This review illuminates the current state of AI's impact while laying the groundwork for future investigations to ensure its sustainable and equitable application in shaping the future of language education.

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