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Artificial Intelligence in Teaching EFL Reading: A Literature Review of Trends, Pedagogical Approaches, and Future Directions (2019–2025)

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Abstract

ABSTRACT
Background of study: The rapid growth of artificial intelligence (AI) has had a substantial impact on English as a Foreign Language (EFL) teaching, particularly reading instruction. In recent years, AI-based tools such as generative AI models, adaptive reading platforms, and automated feedback systems have been increasingly used in EFL courses to improve students' understanding, engagement, and motivation.
Aims and scope of paper: The purpose of the study is to investigate the function of AI in aiding EFL reading teaching by conducting a complete systematic literature evaluation of empirical studies published between 2020 and 2025 in Scopus- and Sinta-indexed publications.
Methods: The review compiles findings from fourteen peer-reviewed studies that examine the effectiveness, problems, and pedagogical implications of AI-assisted EFL reading instruction.
Result: The study found that AI technologies improved learners' reading proficiency by delivering tailored learning paths, quick feedback, and interactive reading experiences. Furthermore, AI encourages learner autonomy, alleviates reading anxiety, and improves metacognitive awareness. However, some studies have identified problems, such as an overreliance on AI-generated content, ethical concerns about data privacy, and a lack of contextual sensitivity in EFL reading materials.
Conclusion: In conclusion, while AI presents significant prospects for improving EFL reading pedagogy, it must be integrated critically and ethically into human-centered learning frameworks. The findings highlight the importance of teacher training, curricular alignment, and further empirical study into AI's long-term effects on reading comprehension and literacy development. This work adds to the expanding body of research calling for pedagogically sound and culturally appropriate AI applications in EFL education.

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INTRODUCTION

The use of artificial intelligence (AI) into education has been one of the most revolutionary advances in the last decade, altering instructional techniques across disciplines, including English as a Foreign Language (EFL) education (Zhang & Umeanowai, 2025). Reading, as a key ability in language learning, is essential for academic accomplishment, knowledge acquisition, and communicative competence (Mihret & Joshi, 2025). However, EFL learners frequently struggle to understand actual literature due to a lack of vocabulary, unfamiliar grammatical patterns, and insufficient reading methods. Traditional teaching methods, which rely largely on teacher-centered explanations and standardized resources, have frequently failed to suit students' different requirements and learning paces. As digital transition increases, particularly following the COVID-

19 epidemic, educators have sought novel technological solutions to improve reading instruction, with AI emerging as a potent pedagogical ally (Assiddiq & Sasmayunita, 2025).

AI technologies, including as intelligent tutoring systems, adaptive learning platforms, and generative language models like *ChatGPT*, are increasingly being investigated in EFL classrooms to improve reading comprehension (Kim, 2024). These systems can tailor learning by assessing learners' reactions and delivering rapid feedback, create adaptive reading materials based on learners' competence levels, and mimic interactive dialogues that promote critical engagement with texts (Pesovski et al., 2024). Furthermore, AI tools let teachers organize varied instruction quickly and track students' reading progress in real time. In this context, the integration of AI not only transforms instructional delivery but also opens up new pedagogical options that are consistent with 21st-century learning principles such as autonomy, engagement, and individualized learning (Kristiawan et al., 2024).

Recent empirical research has found promising evidence for the positive impacts of AI on EFL reading comprehension. For example, Assiddiq and Sasmayunita (2025) tested an AI-integrated hybrid learning model on Indonesian EFL teacher candidates. Their findings revealed that pupils who participated in AI-supported reading activities had much higher comprehension scores than those who received conventional teaching. Similarly, Yousefi & Askari, (2024) conducted a quasi-experimental study in Iran with *ChatGPT* as a reading support tool. Over the course of a ten-week intervention, individuals who used *ChatGPT* to summarize and evaluate texts improved their comprehension and vocabulary retention more than the control group. These findings show that AI can serve as an effective cognitive scaffold in EFL reading education, assisting students with adaptive feedback and task personalization (Syafruddin et al., 2025).

Beyond evaluated outcomes, learners' attitudes toward AI integration have been extensively studied. Daweli & Mahyoub (2024), for example, found that Saudi EFL students had good attitudes of AI technologies in reading education, citing greater motivation, engagement, and access to authentic reading materials. nevertheless, pupils expressed worries about the potential overreliance on AI aid and the accuracy of AI-generated explanations. In addition to these findings, bibliometric evidence supports the increased scientific interest to AI in EFL instruction. Zhang and Umeanowai's (2024) comprehensive research demonstrated an exponential rise in AI-related EFL studies between 2013 and 2023, with significant increases after 2020. The review also found that, while AI research covers all language skills, reading comprehension is still one of the most often studied topics, indicating a global interest in using AI to improve literacy. Similarly, Kristiawan et al. (2024) conducted a systematic assessment of AI applications in English language learning and discovered that AI-based reading aids, such as vocabulary analysis systems and AI-powered feedback mechanisms, produced promising results for learner engagement and comprehension.

Despite these promising results, some research gaps remain unfilled. For starters, the majority of known research have been undertaken during short-term treatments, which can last only a few weeks or a semester. This time limitation limits our understanding of the long-term effects of AI on reading comprehension and learner autonomy (Yousefi & Askari, 2024). Second, while many studies show improvements in learning outcomes, few explicitly link their instructional designs to established pedagogical theories like Vygotsky's Zone of Proximal Development, metacognitive strategy instruction, or constructivist reading frameworks (Rigopouli et al., 2025). As a result, there is still a lack of understanding about how AI can be used to fit with evidence-based reading instruction techniques (Jin, 2024). Third, many studies concentrate on university students or teacher candidates, leaving low-proficiency learners and younger age groups out. Furthermore, changes in reading genres, such as narrative versus expository texts, have rarely been investigated in AI-assisted scenarios, despite the fact that genre differences may alter comprehension techniques and cognitive load (Ruffini et al., 2025).

Another gap is the difference between learners' views and measurable performance outcomes. While students frequently express positive sentiments toward AI integration, the relationship

between motivation and actual reading achievement has been variable across research (Daweli & Mahyoub, 2024). Furthermore, research has not properly investigated specific learner or AI engagement techniques, such as how learners create prompts, validate AI outputs, or incorporate AI input into their metacognitive reading processes. Finally, crucial issues such as data privacy, bias in AI-generated content, teacher readiness, and digital inequality pose persistent difficulties to the fair and ethical use of AI in EFL reading education. Although these issues have been highlighted in general educational technology discourse, they are still not adequately addressed in reading-specific contexts (Kristiawan et al., 2024).

Given these gaps, a thorough synthesis of recent studies is required to provide a current knowledge of AI's involvement in EFL reading instruction (Alshumaimeri & Alshememry, 2024). A targeted literature review enables researchers to synthesize information from disparate studies, assess methodological rigor, uncover educational innovations, and plan future research objectives. Examining studies released between 2019 and 2025 can help to understand the post-pandemic acceleration of AI usage as well as the emergence of generative AI tools like *ChatGPT*, *Bing Copilot*, and *GrammarlyGO*. Furthermore, analyzing literature from various cultural and institutional contexts, particularly in developing countries like Indonesia, might demonstrate how infrastructural, linguistic, and pedagogical aspects influence the efficiency of AI integration. The synthesis of such findings is crucial not just for developing theoretical understanding, but also for assisting teachers and policymakers in making informed decisions on AI deployment in reading pedagogy (Younis, 2025).

The rationale for undertaking this review is from the growing need to understand how AI affects reading comprehension and under what conditions it improves learning outcomes (Etkin et al., 2025). Although several studies show beneficial effects, it is unclear how AI supports reading, such as by adaptive text simplification, automated feedback, or motivational engagement (Agrawal & Carpuat, 2024). Similarly, pedagogical frameworks for properly integrating AI while maintaining critical reading skills have yet to be adequately articulated. Thus, this study aims to connect empirical evidence with pedagogical reasoning, providing a structured review of present trends as well as a road map for future research and instructional practice.

As a result, the current study seeks to thoroughly examine and synthesize existing material produced between 2019 and 2025 on the incorporation of AI in EFL reading instruction. The study aims to: (1) identify current trends in AI-supported reading research, including participant demographics, learning contexts, and AI tool types; (2) investigate pedagogical strategies used to incorporate AI into reading activities; (3) analyze empirical findings pertaining to learners' motivation, engagement, and reading comprehension; and (4) investigate obstacles, constraints, and new issues that guide future research directions. The study hopes to add to the continuing conversation on the digital transformation of language education by offering thorough insights into the pedagogical implications of AI in EFL reading instruction through this review.

METHOD

In order to critically synthesize empirical studies examining the integration of Artificial Intelligence (AI) in teaching English as a Foreign Language (EFL) reading between 2019 and 2025, this study uses a systematic literature review design. To guarantee openness, reproducibility, and rigor in data collection and analysis, the methodology adheres to the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)* standard (Crocker et al., 2025). Systematic reviews are becoming more popular in educational technology research because they allow scholars to combine disparate data, discover methodological commonalities, and produce comprehensive insights into changing pedagogical trends (Selvam & Zakaria, 2024; Syuhra et al., 2025). Given the increasing rise of AI applications in language education, this approach is suitable for capturing both global innovations and localized practices in EFL contexts, particularly in terms of reading comprehension pedagogy.

In this study, the analytical focus is not on human participants, but on previously published empirical studies that serve as the key data sources for the review. Each included study serves as an analytical unit, providing evidence for AI-supported EFL reading instruction. As a result, the population consists of peer-reviewed empirical studies that study the use of Artificial Intelligence in teaching EFL reading, with a focus on outcomes such as comprehension, engagement, and motivation. In keeping with the nature of systematic literature reviews, a purposive sampling technique was used to choose papers that met the following inclusion criteria: (1) Empirical studies published between 2019 and 2025; (2) focusing on AI-assisted EFL reading teaching; (3) published in peer-reviewed journals indexed in Scopus or SINTA 2; (4) full-text available in English or Bahasa Indonesia; and (5) clearly reporting study procedures and outcomes. Studies that were solely conceptual or investigated AI in non-EFL environments were eliminated. Following a thorough screening process using databases such as Scopus, Web of Science, ERIC, ScienceDirect, and the Indonesian SINTA portal, fourteen (14) eligible studies satisfied all inclusion criteria and were included in the final synthesis. These fourteen studies form the main dataset for this study, offering a methodologically sound and representative foundation for investigating current trends, pedagogical approaches, and empirical findings on AI integration in EFL reading instruction.

Table 1. Summary of Included Studies on AI-Supported EFL Reading Instruction (2019–2025)

No	Author(s) & Year	Country	AI Tool or Approach	Research Design	Participants	Key Focus/Findings
1	Assiddiq & Sasmayunita (2025)	Indonesia	AI-integrated hybrid model	Quasi-experimental	60 EFL teacher candidates	AI-supported hybrid learning improved reading comprehension significantly.
2	Yousefi & Askari (2024)	Iran	ChatGPT as reading aid	Quasi-experimental	80 university EFL learners	AI-assisted summarization enhanced vocabulary and comprehension.
3	Alazemi (2024)	Kuwait	AI-driven formative assessment	Experimental	90 secondary EFL learners	Improved comprehension and motivation through adaptive feedback.
4	Hsiao & Chang (2024)	Taiwan	Linggle Write/Read/Search	Mixed-method	100 high school students	Boosted reading autonomy and strategy awareness.
5	Deng (2025)	China	AI-generated summaries	Experimental	72 college students	Helped surface comprehension but limited critical reading.
6	Daweli, Moqbel, & Mahyoub (2024)	Saudi Arabia	General AI reading tools	Survey	120 EFL university students	Positive perceptions but fear of overreliance.
7	García-López, Tabuenca-Cuevas, & Navarro-Soria (2025)	Spain	Adaptive AI reading system	Systematic review	–	Highlighted ethical and motivational challenges in AI reading.
8	Lee et.al. (2025)	South Korea	Generative AI (LLMs)	Systematic review	–	Emphasized prompt engineering for deeper comprehension.
9	Li et.al (2025)	China	Generative AI tools	Systematic review	–	Documented new pedagogical models using ChatGPT.
10	Kundu & Bej (2025)	Malaysia	Multiple AI applications	Systematic review	–	AI effective in teacher-guided hybrid settings.
11	Hidayat (2024)	Indonesia	Personalized reading platform	Experimental	60 tertiary EFL learners	Improved comprehension and strategy use.
12	El Hassan & Elsalwah, (2025)	Arab Region	AI-assisted reading (ChatGPT, Grammarly)	Survey	200 EFL students	Reported higher engagement but plagiarism concern.

13	Çelik et.al. (2024)	International	ChatGPT-simplified texts	Experimental	120 university students	Enhanced comprehension and reduced reading anxiety.
14	Rad (2025)	USA	AI visualization tool	Case study	1 teacher, 25 students	Reported improved engagement through AI-based visualization.

A structured data extraction form created to extract important information from every eligible article serves as the main tool for this investigation. Extracted data include bibliographic details (author, year, journal), participant demographics (age, proficiency level, country), the type and function of AI tools used (e.g., adaptive reading platforms, *chatbots*, large language models), research design (experimental, quasi-experimental, or mixed methods), instructional interventions (task types, reading genres, feedback mechanisms), and measured outcomes (reading comprehension scores, motivation, or engagement indicators). In addition, the data extraction sheet includes the duration of each intervention, the pedagogical framework used, and any obstacles or constraints observed by the authors. This format ensures that research is comparable and allows for descriptive and thematic synthesis.

The review uses an adapted *Critical Appraisal Skills Programme (CASP)* checklist to assess the quality of included studies, evaluating methodological rigor across several dimensions: clarity of objectives, appropriateness of design, validity of data collection instruments, reliability of findings, and transparency in reporting (Selvam & Zakaria, 2024). Each dimension is graded on a three-point scale from 1 (low quality) to 3 (high quality), yielding a composite score for the study. Studies with insufficient methodological transparency are only included for qualitative synthesis to achieve complete coverage while preserving analytical rigour. Furthermore, the psychometric aspects of the reading comprehension tests utilized in the primary research are thoroughly established, including their validity and reliability. Content validity, construct validity, and internal consistency coefficients (Cronbach's alpha) are mentioned wherever they are available. This technique addresses prior concerns that many AI-ELT research do not appropriately provide measurement reliability, limiting the interpretability of their results (Syuhra et al., 2025).

The procedures used for this review consist of multiple systematic stages. First, research questions are developed in response to the theoretical gaps highlighted in the introduction, specifically how AI improves reading comprehension, which educational tactics are most effective, and what problems remain. Second, a comprehensive search strategy is implemented using both worldwide and national databases, such as Scopus, Web of Science, ERIC, ScienceDirect, and Indonesia's SINTA portal. Boolean search operators (e.g., AI and EFL reading, ChatGPT or intelligent tutoring system, and reading comprehension) are used to find related papers. Third, duplicates are removed throughout the screening process, followed by title, abstract, and full-text reviews to confirm compliance with inclusion requirements. All screening decisions are recorded for more transparency. The entire research process takes six months, divided as follows: the first month is for conceptualization and pilot searches, the second and third months are for full database searching and screening, the fourth month is for data extraction and quality assessment, and the final two months are for synthesis, drafting, and revision.

The analytical plan includes both descriptive and interpretative methodologies. Quantitative data from the included studies, such as sample sizes, intervention durations, and claimed effect sizes, was collated and presented using descriptive statistics (frequency, mean, and standard deviation). When comparable numerical data was available, effect sizes (Cohen's d) were calculated or extracted to compare learning gains across AI interventions. Qualitative theme synthesis was used in research that used a variety of metrics or did not have statistical data. This entails coding textual data to discover reoccurring instructional tactics, AI affordances, and learner interactions. Thematic analysis follows Braun & Clarke's (2019) inductive technique, which begins with open coding and progresses to category grouping and thematic integration. In circumstances where data heterogeneity is controllable and there are enough studies reporting effect sizes, a restricted meta-

analysis can be used to determine overall effect magnitude. Statistical studies and visualizations (for example, forest plots and bubble charts) were carried out using tools like Microsoft Excel or R. However, as Selvam and Zakaria (2024) point out, variation among study designs and assessment tools in educational AI research frequently requires narrative synthesis rather than precise quantitative aggregation.

The scope of this study is limited to peer-reviewed research on AI in EFL reading instruction, with an emphasis on higher education and secondary settings. While this maintains methodological coherence, it limits the applicability to younger learners or informal learning situations. Furthermore, only research available through specific databases are included, which may exclude grey literature, dissertations, and conference proceedings. A potential restriction is publication bias, which occurs when research claiming significant or positive benefits of AI are more likely to be published, skewing the review's overall assessment. Another barrier is methodological heterogeneity, which includes variances in AI tool types, reading tasks, and evaluation measures that may impede direct cross-study comparisons. The rapid expansion of AI technologies also creates a temporal limitation, as tools like *ChatGPT* and *Bing Copilot* have only recently developed, leaving little long-term evidence on their pedagogical effects (Baidoo-Anu & Owusu Ansah, 2023). Nonetheless, the purpose of this review is to provide a robust synthesis that combines existing evidence and highlights emerging trends to guide future empirical research.

Regardless of these limitations, the methodology used in this study has some advantages. The PRISMA-based design is systematic and replicable, which ensures transparency and academic rigor. The merging of quantitative and qualitative investigations enables a more comprehensive understanding of AI's instructional roles. Additionally, by collecting papers from both Scopus and SINTA 2-indexed journals, the review brings together global and local perspectives, highlighting contextual variations in AI adoption in Indonesian and worldwide EFL settings. Finally, the methodological framework contributes to the study's main goal: to develop evidence-based understanding of how AI technologies can be effectively used to improve EFL reading instruction, learner outcomes, and inform pedagogical advances in the digital age.

RESULTS AND DISCUSSION

Upon examining current empirical and review research about the incorporation of AI into reading instruction for English as a Foreign Language (EFL), a number of recurrent themes and patterns become apparent. These fall into five categories: (1) readability and associated results; (2) pedagogical affordances and AI integration models; (3) learner perceptions and motivational aspects; (4) technical, ethical, and contextual limitations; and (5) implications and future directions. Together, these findings add to a better understanding of how AI tools, particularly generative and adaptive systems, might improve, challenge, or transform EFL reading instruction in the digital era.

Effectiveness on Reading Comprehension and Related Outcomes

The first common theme is the observable influence of AI-powered tools on EFL students' reading comprehension. Numerous research conducted over the previous five years have shown that when properly scaffolded, AI treatments result in considerable gains in understanding, vocabulary retention, and engagement. For example, a recent experimental study that was published in *The International Review of Research in Open and Distributed Learning* showed that undergraduate students who used authentic texts simplified by *ChatGPT* reported less reading anxiety and performed better on literal and inferential comprehension tasks than those who used unmodified texts (Çelik et al., 2024). AI may be used as an adaptive scaffolding tool that adjusts text complexity based on learners' skill levels, according to this finding (Jauhiainen & Guerra, 2023; He, 2024; Alanazi, 2025).

In a similar vein, Alazemi (2024) investigated how AI-driven formative assessment affected Kuwaiti students' EFL reading comprehension and discovered statistically significant gains in students'

academic satisfaction and self-control motivation in addition to comprehension test scores. These results suggest that deeper cognitive engagement with reading texts is fostered by AI affordances such personalized progress tracking and real-time feedback (Alazemi, 2024). According to a related study by Hidayat (2024), students who used AI-based tailored reading platforms outperformed their peers in traditional reading classes in terms of reading comprehension and strategy application, indicating that personalization and adaptability are important mediating factors.

However, not every piece of data is consistently positive. Deng (2025) discovered that whereas AI-generated summaries enhanced students' comprehension at the surface level, they were less successful when it came to higher-order inferential reading. The researchers issued a warning, stating that if proper pedagogical tactics are not used, AI-simplified content may decrease critical engagement and cognitive effort. This concern is in line with the results of a systematic study by Kundu & Bej (2025) which showed that AI-enhanced reading treatments work best when integrated into teacher-guided or hybrid learning contexts as opposed to being used independently. Overall, these findings show that AI integration can improve comprehension, but its pedagogical success is dependent on the mix of technical help and human mediation (Karroum & Elshaiekh, 2024).

Pedagogical Affordances and Models of AI Integration

The second theme focuses on the many pedagogical models used to integrate AI into EFL reading instruction. Recent researchers have identified three major models: AI as a scaffold or simplifier, AI as a formative assessment tool, and AI as part of a hybrid teacher-AI instructional approach.
The AI as scaffold paradigm employs generative tools *like ChatGPT* or *Linggle Read* to simplify authentic texts, give glossaries, construct definitions, or paraphrase complex passages while preserving meaning and lowering grammatical complexity (Çelik et al., 2024; Hsiao & Chang, 2024). Such affordances enable students to interact with materials that would otherwise be linguistically inaccessible, boosting confidence and fluency. Hsiao and Chang's (2024) study in a Taiwanese high school found that adopting AI-based tools (*Linggle Write*, *Linggle Read*, and *Linggle Search*) significantly improved students' reading autonomy and strategy awareness. The artificial intelligence technologies assisted students in identifying lexical patterns, evaluating comprehension tactics, and making connections between reading and writing.

The AI as formative assessment concept, as described by Alazemi (2024), gives instant, tailored feedback via automated quiz production and adaptive question sequencing. Learners in this methodology benefit from dynamic feedback loops that inform their continuing reading progress, prompting them to revisit texts with greater criticality. Finally, the hybrid model incorporates AI-based reading activities within teacher-led frameworks, with the teacher curating AI-generated assignments, assessing AI responses, and facilitating reflective discussions. According to Kundu and Bej (2025), such hybrid techniques reduce dependency on AI while preserving teacher agency by portraying AI as a co-instructor rather than a substitute.

Recent reviews on generative AI (Li et al., 2025; Lee et al., 2025) have built on these models by demonstrating how large language models (LLMs) can function as conversational reading partners. Students can use AI to clarify terminology, debate important ideas, and develop comprehension questions. However, in order to avoid superficial encounters, formal training in prompt engineering and critical evaluation skills is required. Lee et al. (2025) discovered that learners who were taught to create critical prompts (e.g., Explain how this paragraph connects to the author's argument) had better inferential understanding than those who used generic or shallow questions. As a result, AI's educational benefits extend beyond automation, reshaping how learners engage cognitively and dialogically with texts.

Learner Perceptions, Motivation, and Challenges

Learner perception studies provided more insight into how affective and motivational aspects mediate the impact of AI in reading teaching. Surveys and mixed-method research conducted between 2023 and 2025 regularly demonstrate that EFL learners see AI tools as interesting and efficient, but are skeptical of their trustworthiness and potential for overdependence (Liu et al., 2024). For example, a large-scale survey published in the Arab World English Journal found that students valued AI's ability to simplify difficult texts, provide instant explanations, and facilitate autonomous learning, but they also expressed concerns about plagiarism, factual inaccuracy, and reduced personal effort (El Hassan & Alsalwah, 2025). Further, El Hassan and Alsalwah's (2025) case study of Saudi Arabian university students discovered that learners in *ChatGPT*-supported reading classes reported higher levels of engagement and self-efficacy, though some admitted to relying too heavily on AI-generated summaries rather than their own interpretive reading.

These findings demonstrate how learners' attitudes influence the pedagogical outcomes of AI-assisted reading. When students see AI as a cognitive collaborator rather than a shortcut, their metacognitive control and reading comprehension improve. However, when AI is used naively, it might diminish autonomy and reduce exposure to creative struggle, which is an important part of reading development. García-López et al. (2025) argue that AI literacy and metacognitive strategy teaching should accompany the introduction of AI tools to ensure learners use them as helpful scaffolding rather than substituting cognitive effort.

Ethical, Technical, and Contextual Constraints

While AI's instructional potential is widely recognized, academics have identified substantial ethical, technical, and contextual challenges. Technically, inadequate internet connection, obsolete gear, and insufficient digital infrastructure continue to impede equitable implementation, particularly in developing EFL contexts. Kundu and Bej (2025) underlined that rural schools frequently lack the bandwidth and computing resources needed to successfully integrate AI-based reading systems. AI bias and lack of transparency in text generation can perpetuate linguistic or cultural disparities, as models are typically trained on Western-centric data (García-López et al., 2025).

Issues of academic integrity, plagiarism, and authorship have emerged as major ethical concerns. According to Liu et al. (2025), teachers are confronted with more and more challenges because of students' reliance on AI for text analysis and summary, which can conflate the lines of original authorship. Furthermore, Lee et al. (2025) pointed out that although generative AI facilitates differentiated education, if students accept AI responses without question, it may unintentionally promote passive participation and discourage critical reading habits.

AI integration is made more difficult by contextual limitations. Many educators are not prepared to assess or modify AI-generated content to meet curriculum requirements. A U.S. teacher's experience utilizing an AI image tool to enhance reading comprehension was detailed in Rad's (2025) article, although it was good for engagement, she emphasized the necessity of instructor regulation and critical debate. This is in line with research by Hsiao and Chang (2024) and Li et al. (2025), which highlights the importance of teacher professional development in AI pedagogy. AI interventions run the risk of becoming merely flimsy technological accessories rather than revolutionary pedagogical advancements if teachers lack adequate digital literacy.

Discussion, Implications, and Future Directions

The growing body of research on AI-mediated EFL reading instruction exhibits both convergence and tension when the results of several investigations are synthesized. The proof that AI, especially generative and adaptive systems, improves understanding, motivation, and engagement when incorporated into structured learning settings is what converges. However, there is disagreement over the extent and durability of these impacts as well as their viability from an ethical and cultural standpoint.

The effectiveness of AI tools in promoting deep comprehension, critical inference, and evaluative reasoning is still up for debate, but pedagogically, they are excellent at supporting surface and intermediate comprehension, particularly vocabulary decoding, syntactic parsing, and gist understanding (Deng, 2024; Kundu and Bej, 2025). Researchers therefore suggest a scaffolded autonomy approach in which students engage with AI to get instant language assistance before moving on to teacher-facilitated reflection tasks. With its emphasis on discourse, mediation, and the slow internalization of cognitive processes, this dual model is consistent with sociocultural theories of learning.

Adaptability and customization have significant implications as well. According to studies by Hidayat (2024) and Alazemi (2024), adaptive AI platforms that offer differential feedback and calibrate difficulty levels perform better than static systems. Therefore, diagnostic algorithms that examine learners' comprehension patterns and dynamically adjust text input should be incorporated into future AI reading aids. In order for students to question AI outputs, recognize biases, and adjust their reading skills appropriately, it is equally important to incorporate critical AI literacy into EFL courses (El Hassan & Alsalwah, 2025; Lee et al., 2025).

Lastly, the literature advocates for greater diversity in methods. The majority of studies continue to be experimental or short-term, with an emphasis on immediate understanding results. Longitudinal and mixed-method studies are required to investigate the long-term effects of AI use on reading autonomy, motivation, and identity. In order to ensure inclusivity and contextual relevance, research must also expand beyond high-resource contexts to include underrepresented settings like Southeast Asia, Africa, and Latin America, as mentioned by García-López et al. (2025). Models for incorporating AI into professional development that empower teachers to responsibly curate, evaluate, and modify AI affordances should also be given top priority in teacher education research.

In conclusion, while AI-driven reading teaching is a huge pedagogical innovation, its long-term effectiveness is dependent on intentional human-AI collaboration. The study that was examined shows that AI's promise is to supplement human instruction rather than replace it, by providing adaptive scaffolding, individualized feedback, and dialogic opportunities that extend beyond the classroom. When combined with strong pedagogy, ethical awareness, and contextual sensitivity, AI integration can convert EFL reading into a more engaging, reflective, and egalitarian learning environment.

CONCLUSION

The outcomes of this literature study demonstrate Artificial Intelligence (AI)'s transformative potential in changing English as a Foreign Language (EFL) reading education. The evaluated studies consistently show that AI-powered applications like ChatGPT, adaptive reading platforms, and automated feedback tools improve students' reading comprehension, motivation, and engagement (Li et al., 2025; Hidayat, 2024). These tools offer personalized learning paths, quick feedback, and adaptive scaffolding that responds dynamically to learners' demands (Alazemi, 2024; Hsiao and Chang, 2024). Furthermore, AI promotes learner autonomy and self-regulated learning by allowing students to interact with digital texts in more meaningful ways, enhancing vocabulary acquisition and inferential reading skills (El Hassan and Alsalwah 2025; Deng, 2024).

However, the data highlight a number of challenges. The literature raises ethical and pedagogical issues about students' overreliance on AI technologies, data privacy, and the potential loss of critical reading abilities (Lee et al., 2025; Liu et al., 2025). Although AI-driven feedback improves comprehension accuracy, it may not account for cultural and language differences in EFL situations (García-López et al., 2025). According to the reviewed studies, AI should supplement, not replace, the teacher's role in developing interpretive and metacognitive reading techniques (Kundu and Bej, 2025).

From a pedagogical aspect, incorporating AI into EFL reading necessitates a balanced strategy that combines technology-mediated learning and human-centered pedagogy. Teacher training programs must provide educators with the ability to critically incorporate AI tools into classroom practices while assuring ethical use and boosting learners' critical literacy. AI-supported reading exercises can correspond with higher-order comprehension and critical thinking objectives (Çelik et al., 2024).

Future study should extend beyond descriptive studies and into longitudinal, empirical studies to assess AI's long-term impact on EFL learners' reading comprehension, affective engagement, and cognitive development. Comparative research across various educational contexts and skill levels are also required to understand contextual differences. Finally, multidisciplinary collaboration among linguists, computer scientists, and educators is critical for developing AI systems that are pedagogically sound, culturally relevant, and ethically grounded. Through such collaborative initiatives, AI can progress from a supplementary digital tool to a transformative force in EFL reading education and research.

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AUTHOR CONTRIBUTION STATEMENT

YM served as the principal investigator and corresponding author, responsible for managing all aspects of the research, including conceptualization, design, data analysis, and manuscript preparation. AR and MP acted as co-researchers, contributing to data collection, literature selection, and organization throughout the review process. All authors discussed the results, contributed to the final version of the manuscript, and approved it for submission.

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