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Artificial Intelligence Implementation in Teaching English as a Foreign Language: A Qualitative Research Synthesis

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Abstract: The rapidly growing influence of artificial intelligence (AI) is poised to fundamentally transform the realm of English as a Foreign Language (EFL) instruction. This research studied this emerging trend through a qualitative research synthesis of 24 peer-reviewed articles published between 2021 and 2024. It examined them to highlight the diverse applications, challenges, and teaching practices associated with AI in EFL education. Methodological rigor was ensured through established inclusion and exclusion criteria for selecting the articles. The qualitative synthesis and thematic analysis revealed five prominent themes that illuminate the current landscape of AI in EFL instruction: 1) conceptualizations of AI within EFL settings; 2) factors influencing its adoption; 3) challenges faced when integrating AI into EFL settings; 4) limitations of AI-based tools and methods; and 5) potential avenues for future investigation. Although integrating AI into EFL pedagogy is still in its early stages and presents various challenges, the findings provide valuable insights and practical recommendations for effectively using AI in EFL education, enhancing teaching methods, and improving student learning outcomes. Educators can make informed decisions regarding its implementation while navigating the evolving EFL instruction landscape by cultivating an understanding of AI's potential benefits and inherent limitations.

Keywords: Artificial intelligence, Digital language instruction, Emerging technologies, Mobile-assisted language learning, Qualitative synthesis.

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Introduction

English proficiency is now widely recognized as essential in academic and professional domains (Mohamed, 2024), and educators continually seek to refine English language teaching methodologies, with technological advancements driving a shift from traditional to contemporary approaches in language education (Alrajhi, 2024; Ebadi & Amini, 2022). Furthermore, recent innovations in artificial intelligence (AI) have significantly enhanced the accessibility and effectiveness of English as a foreign language (EFL) teaching and learning resources (Hwang et al., 2012). Despite potential challenges associated with integrating such technologies, their implementation can foster more significant learner interaction and independence (Chen et al., 2022). Specifically, contemporary AI-powered learning tools are designed to cater to individual learning styles, creating interactive learning environments enriched with multimedia resources (Mohamed, 2024). As a result, computer-assisted language learning (CALL) has evolved in the modern era by integrating AI, offering innovations such as speech recognition technology to improve speaking skills (Zou et al., 2023). Moreover, AI can revolutionize language learning by automating tasks like grading and providing personalized feedback (Tai, 2022). These AI-driven platforms also promote inclusivity and enhance learner motivation by adapting to individual needs and simulating real-world scenarios (Fakher Ajabshir, 2023). Therefore, these AI-powered tools ultimately contribute to increased motivation, engagement, and language acquisition (Fakher Ajabshir, 2023; Han & Lee, 2022). However, these transformative changes necessitate a combination of creative vision and expert guidance to ensure their effective implementation (Zhang et al., 2024).

The effective integration of AI into EFL curricula depends on a thorough understanding of established frameworks that explain user acceptance of technology. Central to this understanding is the Technology Acceptance Model (TAM) (Figure 1), a foundational concept introduced by Davis (1989) that remains pivotal in information systems research. TAM offers a robust, theory-driven framework for analyzing drivers of technology adoption across diverse contexts and populations (Davis, 1989; Wei et al., 2025).

Rooted in the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB), TAM identifies two key constructs that shape user acceptance. The first is perceived usefulness (PU), defined as the belief that technology enhances performance. The second is perceived ease of use (PEOU), which refers to the perception that technology is effortless to operate (Davis, 1989). These constructs directly influence users' attitudes toward technology, subsequently shaping their behavioral intention (BI) and leading to actual system use (ASU)

(Chen et al., 2024; Mata et al., 2024). For educators and administrators aiming to implement AI in EFL settings, TAM provides critical insights into the psychological and practical factors driving technology adoption.

The strength of TAM lies in the dynamic relationship between PU and PEOU. Empirical studies demonstrate that PEOU not only directly informs user attitudes but also indirectly enhances PU, with PU mediating the link between PEOU and attitude (Rejali et al., 2024). This interconnectedness strengthens TAM's predictive validity, as evidenced by its application in online learning, banking systems, and AI tools (Martinez et al., 2024; Wistedt, 2024).

Further refining the model, Venkatesh and Davis (2000) positioned behavioral intention (BI) as a critical intermediary between attitude and ASU. This adjustment clarifies the pathway from perception to action, underscoring TAM's adaptability. For instance, Huang and Mizumoto (2024) confirmed that PEOU reinforces both PU and attitude, while PU independently strengthens attitude, collectively driving ASU. Such insights are invaluable for EFL contexts, where educators' and learners' perceptions of AI's utility and usability are central to successful integration.

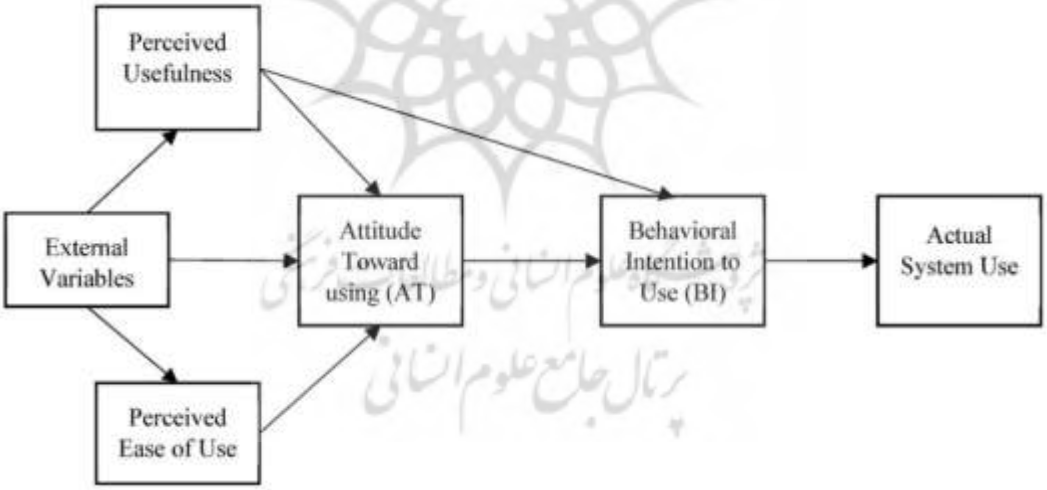

Figure 1. The Theoretical Framework of TAM (Davis et al., 1989; Mata et al., 2024)

While the Technology Acceptance Model (TAM) has garnered significant recognition, it has also faced criticism for its extrinsic focus and insufficient consideration of broader contextual variables. Kong et al. (2024) contend that TAM neglects macro-level influences, such as human, social, and organizational factors, significantly impacting technology

adoption. This narrow emphasis on extrinsic motivators, particularly perceived usefulness (PU), has prompted scholars to advocate for integrating intrinsic factors like self-efficacy and subjective norms (Kong et al., 2024; Venkatesh, 1999). García et al. (2024) further stress the importance of social influence—including peer, familial, and educator input—in shaping behavioral outcomes, a dimension inadequately addressed in TAM's original framework. Additionally, TAM's applicability diminishes outside workplace settings, as its core constructs may fail to capture the complexities of diverse environments, such as educational contexts (Wei et al., 2025). These limitations highlight the need to critically assess TAM's boundaries when applying it to English as a Foreign Language (EFL) education, where pedagogical and social dynamics significantly influence AI implementation.

To address these critiques, later iterations of TAM have broadened its scope. For example, TAM2 (Venkatesh & Davis, 2000) and TAM3 (Venkatesh & Bala, 2008) incorporate constructs like subjective norms and facilitating conditions, aligning more closely with the holistic approach of the Theory of Planned Behavior (TPB) (Kleine et al., 2024). TAM3, in particular, advances the framework by dissecting mediating pathways through individual differences, social influences, and resource availability. It distinguishes between the antecedents of PU and perceived ease of use (PEOU): PU, akin to extrinsic motivation, is shaped by perceived benefits and external cues, while PEOU evolves from general computer beliefs refined through direct user experience (Venkatesh & Bala, 2008). This distinction underscores the role of hands-on interaction in solidifying PEOU, as users assess a system's intuitiveness through practical engagement. For EFL educators introducing AI tools, this insight is critical for fostering user confidence.

TAM's limitations have also spurred the development of integrative frameworks like the Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh et al., 2003). By synthesizing TAM with TPB and other theories, UTAUT incorporates performance expectancy, effort expectancy, social influence, and facilitating conditions, offering a comprehensive lens for analyzing technology acceptance (Kleine et al., 2024). Similarly, TPB enhances TAM by integrating subjective norms and perceived behavioral control, positing that behavioral intention (BI) arises from the interplay of attitude, social pressures, and perceived facilitators or constraints (Ajzen, 1985). However, TAM's shortcomings remain pronounced in educational contexts, as it provides limited guidance on pedagogical integration or content delivery—key considerations in EFL curricula (García et al., 2024).

Despite these challenges, TAM remains vital for integrating AI into EFL education. It identifies critical factors influencing AI tool adoption, such as perceived usefulness, ease of

use, and social influences. By leveraging TAM, stakeholders can anticipate challenges and align AI implementation with educational goals, ensuring technology enhances learning experiences and upholds the quality of EFL instruction.

Considering the historical context, the inception of AI in 1956, with its initial aim to replicate human intelligence (McCarthy, 2007), marked the beginning of a transformative influence on education. This process began to unfold from the 1960s onward. While technological applications in English language learning have a more extended history, exemplified by Joseph Weizenbaum's pioneering ELIZA program in 1966 (Chun, 2020), this early development already hinted at AI's revolutionary potential within language acquisition. Despite its inherent limitations, ELIZA provided a glimpse into future possibilities. Subsequently, AI-powered tools have significantly reshaped language education by offering learners personalized feedback and diverse learning resources (Russell & Norvig, 2016). Furthermore, projections indicate the development of even more sophisticated educational tools in the future (Lee, 2023; Mohamed & Shabaan, 2021; Wang et al., 2023). This advancement is evident in computer and mobile-assisted language learning through AI technologies (Zou et al., 2023). In addition, AI algorithms within educational systems facilitate personalized interventions tailored to individual learners (Demir & Güraksın, 2022; Jeon, 2022). Moreover, AI empowers teachers to make data-driven decisions regarding curriculum development and assessment through the analysis of student data (Teng et al., 2023). Concurrently, AI-based learning technologies offer individualized support and pinpoint students' strengths and weaknesses (Christudas et al., 2018; Goksel & Bozkurt, 2019; Hwang et al., 2020; Wang et al., 2023). These tools promote academic success and identify and evaluate knowledge gaps among learners, so it is important that educational and technological stakeholders, particularly policymakers and teachers, be well-versed in the potential and importance of AI for educational enhancement (Hwang et al., 2020; Kuddus, 2022).

The development of AI-based tools promises to provide substantial learning assistance for learners and teachers (Colak et al., 2008; Mohamed, 2024). Indeed, recent research indicates that AI-driven language learning tools offer several key advantages, including continuous accessibility, personalized learning experiences, and immediate feedback (Huang et al., 2023; Kuleto et al., 2021; Xie et al., 2019). Furthermore, research has specifically highlighted the role of AI in facilitating crucial aspects of language acquisition, such as student assessment and pronunciation enhancement (Pokrivcakova, 2019; Tlili et al., 2021). In addition to these benefits, AI-powered language learning programs can create engaging

learning environments that effectively improve speaking skills (Jia et al., 2022). Moreover, AI-based technologies, such as chatbots, offer opportunities for English language practice at any time and location (Fathi et al., 2024; Fryer et al., 2020; Huang et al., 2022).

Chatbots, encompassing virtual assistants, teaching agents, and conversational agents, are versatile tools employed across diverse platforms and devices, including applications and websites (Bailey, 2019; Melian-Gonzalez et al., 2021). Advancements in chatbot technology, particularly the development of increasingly realistic features, have significantly impacted learner perceptions of their effectiveness in educational and non-educational settings. This evolving perception necessitates further investigation. In addition, research on chatbot integration has demonstrated improvements in several key areas, such as learning enjoyment, efficiency, and the social-emotional dimensions influencing English language acquisition (Golossenko et al., 2020; Pelau et al., 2021). However, while chatbots have been adopted across various domains, their specific application within English language learning remains relatively recent (Dale, 2016; Fryer et al., 2020).

Nevertheless, chatbots offer many advantages for both language learners and educators. These benefits include facilitating engaging conversations through voice and text, providing intelligent responses, promoting active interaction, enabling pronunciation practice, and delivering feedback. Additionally, these features contribute to improved learning outcomes, enhanced convenience, greater learner independence, increased comfort, and heightened confidence in the learning process (Huang et al., 2022; Kim, 2016; Walker & White, 2013). This potential has led second-language teachers and researchers to view chatbots as valuable conversational partners for English language learning (Jeon, 2022). Notwithstanding their supportive capabilities in delivering prompt responses and corrections, it is crucial to acknowledge a potential drawback. For example, students who rely too much on AI technology may find it challenging to develop their critical thinking skills and independent thinking ability, correctly assess language, and understand linguistic patterns (Darwin et al., 2023).

Empirical research demonstrates that AI offers several benefits for language learners. Studies indicate that AI can foster students' emotional development, knowledge acquisition, and language learning progress (Rad, 2024). Furthermore, AI tools increasingly alleviate the workload associated with written assignments for students and educators by providing immediate feedback and accelerating the development of learners' writing skills (Marzuki et al., 2023). In oral communication, AI assists learners in practicing and refining pronunciation and intonation while mitigating anxiety (Zou et al., 2023). Specifically,

AI-driven speech assessment systems have been shown to enhance learner motivation and confidence (Evers & Chen, 2020; Wang et al., 2022), thereby strengthening speaking proficiency in English language acquisition (Bashori et al., 2021; Kuddus, 2022; Tai & Chen, 2020).

However, research indicates that while English language teachers generally welcome integrating new technologies into their classrooms, they also face significant challenges (An et al., 2021; Pokrivcakova, 2019). These challenges encompass practical concerns such as limited resources, inadequate training, conflicting attitudes toward technology, and the fears of professional displacement. Moreover, ethical considerations surrounding AI-based language learning systems are paramount (Mohamed, 2024). A key ethical concern centers on user data privacy (Wang et al., 2022). Furthermore, standardized AI platforms often overlook the nuanced diversity and sensitivity of cultural and human emotions (Jeon, 2022; Kim, 2017). While AI offers valuable enhancements to the learning process, it cannot fully substitute human interaction. Consequently, a balanced approach integrating AI and traditional teaching methodologies is crucial for an optimal learning environment (Mohamed, 2024; Pradana, 2023). Beyond ethical considerations, other challenges associated with technology integration in English language teaching include a lack of real-world application opportunities and technical and infrastructural limitations (Austin et al., 2017; Chien et al., 2020). Despite the promising potential of AI in language education, its successful implementation hinges on teacher satisfaction and the development of innovative curricula (Geng et al., 2021; Tsai & Chai, 2012). Therefore, providing teachers with comprehensive training that addresses both technical skills and ethical considerations is essential for effective AI integration in language education (Wang et al., 2022). Moreover, teacher adaptability, expertise, and proficiency in AI tools are critical for successful integration into English language teaching (Du & Gao, 2022; Pokrivcakova, 2019). Consequently, as AI continues to transform English language learning, addressing teachers' knowledge and skill gaps has become imperative to maximize the benefits of this technology in language education (Fakher Ajabshir, 2023).

The integration of AI into English language teaching and learning has garnered increasing attention due to its innovative potential and widespread accessibility. AI offers transformative opportunities to enhance language acquisition, retention, and learner engagement, challenging traditional pedagogical paradigms. Despite this promise, a comprehensive understanding of its effectiveness and practical application in English language learning (ELL) remains limited. Existing research often lacks cohesion, frequently

emphasizing isolated case studies over systematic explorations of how AI can be seamlessly embedded into curricula. Qualitative research synthesis can bridge this gap by consolidating findings, identifying recurring themes and challenges, and establishing a foundation for robust pedagogical frameworks. While the benefits of AI-driven English language instruction are evident, addressing this research gap is critical, particularly given the broader implications for educational practice. A rigorous investigation into AI's applications, challenges, and best practices in this domain is thus essential to elucidate its capabilities thoroughly. Accordingly, this study undertakes a research synthesis to explore extant studies on AI in English language education, providing educators with insights and actionable recommendations for integrating this technology effectively. Drawing on a comprehensive analysis of 24 peer-reviewed articles from high-impact international journals, this study examines the impact of AI-driven pedagogy on English language acquisition and learner proficiency, with a particular focus on EFL instruction. Specifically, it addresses four research questions:

1. How is AI integration in English language teaching conceptualized?
2. What AI-based pedagogical approaches are most prominent?
3. Which variables are consistently associated with AI-mediated teaching?
4. What recurring challenges arise in its implementation?

Methods

This study undertakes a qualitative research synthesis to address the dispersed nature of existing research on AI in English Language Teaching (ELT). Rather than generating new data, this research re-analyzes and evaluates data from previously conducted studies (Cronin, 2011). Consequently, by integrating findings from diverse research endeavors, this review aims to provide novel insights and deepen our understanding of this subject (Sandelowski & Barroso, 2007). Specifically, this study analyzes existing research concerning the application of AI in ELT. To this end, a comprehensive search was performed across major international databases to identify relevant articles published between 2021 and 2024. The search employed "AI and EFL" and "AI in English Learning." This search yielded an initial pool of 158 articles, of which 24 met the established inclusion criteria and were subsequently selected for detailed review. In order to undertake a thorough assessment of the chosen papers, the research followed the seven-phase synthesis framework proposed by Sandelowski and Barroso (2007). The article selection process used the Critical Appraisal Skills Programme (CASP).

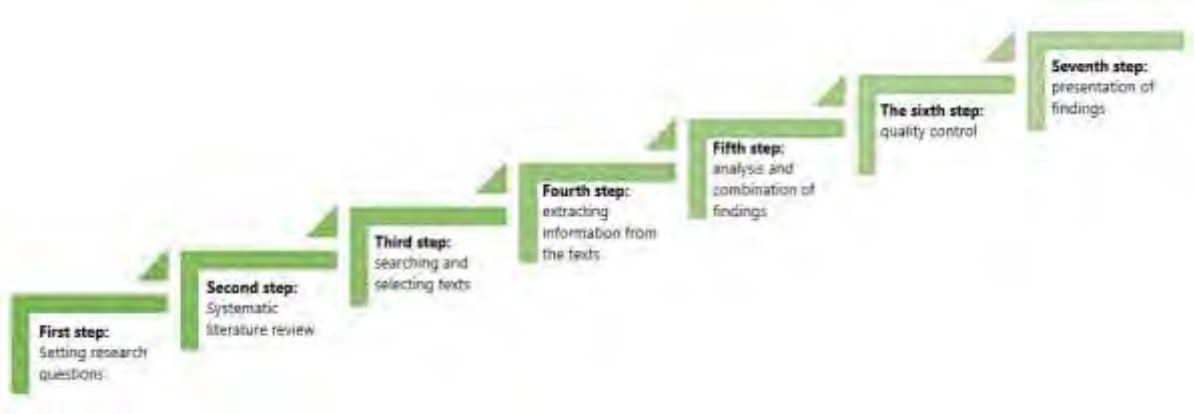

Figure 2. The Seven Stages of Synthesis (Sandelowski & Barroso, 2007, p. 105)

Step 1: Setting Research Questions

This study seeks to advance innovative methodologies in English language learning through empirical investigation and the provision of actionable insights. Specifically, this qualitative research synthesis examines AI-based EFL instruction with a threefold purpose. Firstly, it aims to identify and critically evaluate AI-based methods supported by empirical evidence demonstrating their efficacy. Secondly, it offers evidence-informed guidance on the pedagogical integration of AI technologies within English language classrooms. Finally, this study addresses crucial knowledge gaps in the field by delineating the most effective AI-based EFL instruction strategies. To achieve these objectives, this research analyzes the complex landscape of AI in EFL instruction and offers compelling recommendations for its optimal implementation.

Step 2: Systematic Review of Literature

A systematic literature review was conducted using a predefined set of keywords, as outlined in Figure 3, to explore the application of AI in English language teaching. This study analyzes selected peer-reviewed articles published in high-impact international journals, all written in English. The review incorporated a diverse selection of peer-reviewed English-language journals representing various geographical regions to examine the existing research thoroughly. Through this process, 24 relevant articles were identified and subjected to detailed analysis. These selected articles were retrieved from leading academic databases, including Scopus, Web of Science (WOS), ScienceDirect, SpringerLink, Wiley Online Library, Taylor & Francis Online, and Sage Journals.

Step 3: Search and Select

The third phase of the current synthesis involved a rigorous appraisal of the quality of studies selected from multiple databases. This quality assessment process adhered to a four-stage protocol. Initially, titles, abstracts, and available content were screened. Subsequently, a comprehensive quality assessment was conducted using the Critical Appraisal Skills Programme (CASP) tool, specifically designed for evaluating primary qualitative research. This evaluation involved a detailed review of each study's research objectives, methodology, design, and sampling strategy. Each article's title, abstract, methodology, discussion, and conclusion were meticulously examined to ensure adherence to predefined inclusion criteria, such as thematic relevance and full-text availability. A standardized ten-item CASP checklist, with a scoring range of 0 to 50, was employed to categorize articles into five quality tiers: excellent (41-50), perfect (31-40), good (21-30), moderate (11-20), and poor (0-10). Consequently, only articles achieving a good or excellent rating were advanced to subsequent review stages. This stringent quality control excluded 134 of 158 appraised articles, leaving 24 eligible for an in-depth analysis. This was followed by the establishment of an inter-coder agreement to guarantee uniformity in the selection and rating process (Cohen's kappa, resulting in a score of 0.88 ($p < 0.05$)), wherein both researchers separately evaluated the studies according to pre-defined criteria that the researchers had already developed (Table 1). The article search and selection process are visually represented in a flowchart (Figure 3).

Table 1. Inclusion and Exclusion Criteria for Articles in the Synthesis Process

Exclusion	Inclusion
Lack of thematic focus related to the research objective	Relevance of the title and content to the research topic
Languages other than English	Publication year 2021 or later
Lack of access to the full text of the article	
Duplicate and overlapping topics and content	

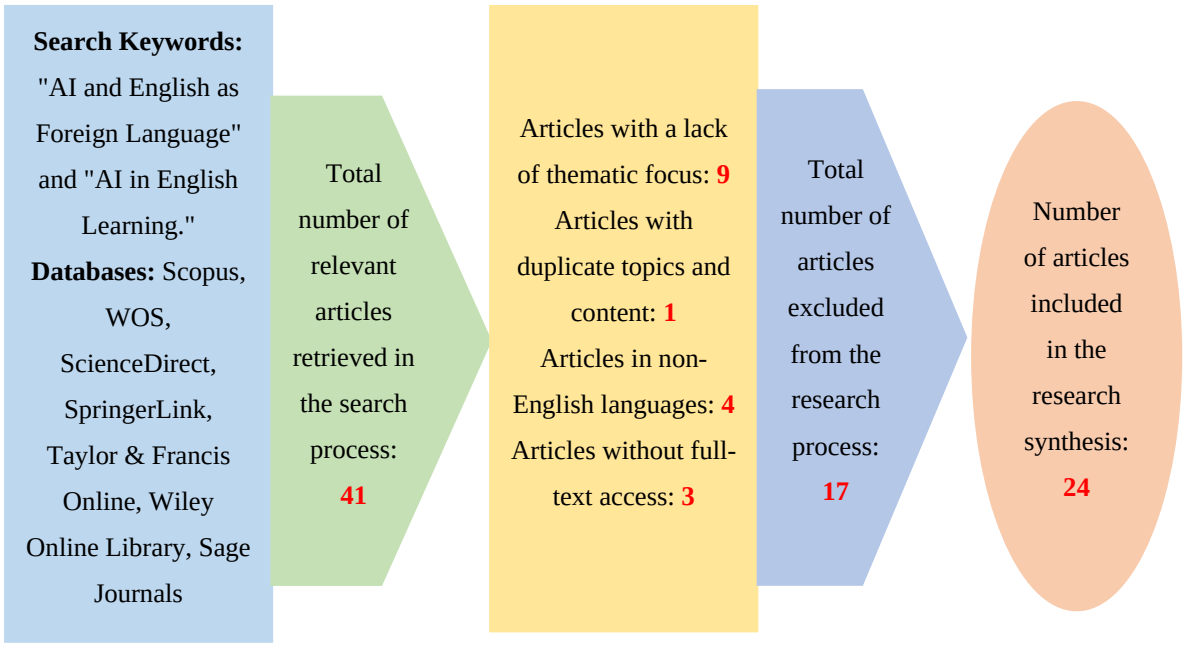

Figure 3. Flowchart of the Inclusion of Articles in the Synthesis Process

Step 4: Extraction of Articles Information

A comprehensive data extraction table (Table 2) was developed to encapsulate the salient features of the studies included in this review. This table includes the research's title, authors, publication year, study location, research methodology, sample size, and measurement instruments. Furthermore, to facilitate subsequent data analysis and coding procedures, each article underwent a meticulous review, during which pertinent information relevant to the research questions was extracted and documented.

Table 2. Characterization of Included Studies

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
1	ChatGPT: The catalyst for teacher-student rapport and grit development in L2 class	Ghafouri (2024) Iran	Finding practical ways to cultivate an emotionally supportive learning environment	Pretest-posttest control group design	Students taught English through CGRBP performed better than the control group students on the L2 grit scale. ChatGPT's positive impact on fostering a motivating and emotionally supportive second language learning environment was evident.

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
2	A systematic review on artificial intelligence dialogue systems for enhancing English as foreign language students' interactional competence in the university	Zhai & Wibowo (2023)-	Examining the use of AI conversational systems to enhance the interactive skills of university students learning EFL	Systematic review	A systematic review identified six primary and 25 secondary dimensions that influence the application of AI conversational systems for English language learning. The six primary dimensions include technological integration, task design, student engagement, learning objectives, technological limitations, and novelty effect. The results showed that developing and implementing AI conversational systems for English language learning is still in its infancy.
3	Artificial intelligence in EFL speaking: Impact on enjoyment, anxiety, and willingness to communicate	Zhang et al., (2024) China	An examination of the impact of an AI assistant named Lora on foreign language enjoyment (FLE), foreign language anxiety (FLA), and willingness to communicate (WTC) among Chinese English language learners	2x2 factorial design	The AI language assistant effectively supported Chinese English learners in their speaking endeavors, granting them greater control over their English learning process. This positive impact translated into increased foreign language efficacy (FLE), higher Willingness to Communicate (WTC), and decreased foreign language anxiety (FLA). The AI-based interaction created a nonjudgmental environment, resulting in low anxiety and high communicative confidence.

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
4	Artificial intelligence pedagogical chatbots as L2 conversational agents	Alrajhi (2024) Saudi Arabia	Exploring how English language learners perceive and learn from a text-based chatbot, examining its mental and emotional aspects, effectiveness, limitations, and whether a student's English proficiency impacts their understanding	Mixed-methods	Findings indicated positive experiences regarding the chat robot's comprehensibility and understanding. Regarding interaction, the chatbot was perceived as supporting second language practice and writing development, sparking interest, increasing motivation, and reducing writing anxiety. It was found that second language proficiency did not significantly influence overall views of the chatbot-mediated interaction, except for being helpful for second language practice, which garnered substantially more positive views from students.
5	Artificial Intelligence-Based Content Generator Technology for Young English-as-a-Foreign-Language Learners' Reading Enjoyment	Lee et al., (2023) South Korea	Sharing an innovative method based on one of the potential AI technologies for second language teaching and learning content generation based on AI	Mixed-methods	It was determined that this technology could enhance young learners' enjoyment of English language learning and their interest in reading English books, which can contribute to their English language learning in various ways. Particularly in terms of foreign language enjoyment, it is expected that creating positive emotions (namely, enjoyment) would lead to positive learning outcomes.

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
6	Artificial Intelligence in English Language Teaching: The Good, the Bad and the Ugly	Hockly (2023) -	Exploring AI in English language education: opportunities and challenges for learners, teachers, and institutions	Literature review	Institutions and teachers should consider six areas and ensure parents are informed about data collection and AI-based tools. Informed consent, assisting learners in reading terms of service and developing digital literacy, understanding different countries' data protection laws such as COPPA in the US, GDPR in Europe, and the Privacy Act in Australia, familiarizing institutional managers with these laws and respecting them, and participating in the UN's AI initiative or the Ethical AI Institute within the framework of education.
7	The influence of ChatGPT on thinking skills and creativity of EFL student teachers: a narrative inquiry	Kartal (2024) Turkey	Exploring and understanding pre-service teachers' experiences, perceptions, and reflections on the use of ChatGPT in their teaching practices	Narrative Research	The benefits of using ChatGPT in the classroom include increased student engagement, rapid feedback, and diverse perspectives. To encourage students, teachers should incorporate ChatGPT into lesson planning and activities. However, potential drawbacks such as over-reliance on generated content, ethical concerns, and the need for digital literacy skills to evaluate AI-generated information are also

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
					highlighted. Despite these, the study emphasizes the importance of integrating ChatGPT to enhance critical thinking and creativity.
8	Critical thinking in the AI era: An exploration of EFL students' perceptions, benefits, and limitations	Darwin et al., (2023) Indonesia	Providing a deep understanding of English students' perceptions regarding the benefits and limitations of AI in the realm of critical thinking	Qualitative	The findings revealed a complex view of critical thinking, encompassing questioning norms, analyzing context, and evaluating evidence. Students acknowledged the utility of AI in enriching various aspects of critical thinking, such as academic research and theory exploration. However, concerns were raised regarding AI's limitations, including lack of personalization and difficulties in accurate understanding.
9	Enhancing EFL reading and writing through AI-powered tools: design, implementation, and evaluation of an online course	Hsiao & Chang (2023) Taiwan	Examining how teachers utilize AI-powered tools and how students perceive their learning experiences with these tools to inform the design of practical online courses	Mixed-methods	Clear explanations, demonstrations, practice, reflection, and feedback are essential for learning AI-based tools. A balance between teacher-centered and student-centered teaching approaches is recommended for meaningful online learning experiences. Consequently, addressing challenges students face in synchronous online courses, such as

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
					information overload and fatigue, can be achieved by breaking down content into smaller chunks, providing scaffolding, soliciting feedback, and accommodating students with delayed English language skills.
10	Examining the roles of social presence and human-likeness on Iranian EFL learners' motivation using artificial intelligence technology: a case of CSIEC chatbot.	Ebadi & Amini (2022) Iran	Examining university students' attitudes toward the potential role of AI-powered mobile applications and investigating the role of social presence and human likeness in motivating learners from the perspective of chatbots	Mixed-methods	Quantitative results showed that learner motivation was significantly predicted by social presence and perceived human likeness. Thematic analysis of qualitative data revealed that descriptions attributed to the CSIEC teacher led to increased learner motivation, enthusiasm, and confidence in learning English. Based on the results, AI provides opportunities for conversational practice that are complemented by chat-like interfaces such as chatbots.
11	Exploring AI-mediated informal digital learning of English (AI-IDLE): a mixed-method investigation of Chinese EFL learners' AI adoption and experiences	Liu et al., (2024) China	Investigating the extent to which L2 learners adopt and utilize large language model platforms (such as ChatGPT and Bing Chat) for informal digital English language learning (IDLE)	Mixed-methods	This study calls for increased attention to the ethical considerations surrounding GPT technologies and the impact of data privacy and accuracy on language learners' attitudes toward AI usage. It also emphasizes the need for equity and accessibility

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
					to tools, such as access to powerful versions like ChatGPT. Plus, it is restricted to those who can afford the paid subscription. This unequal access impacts language learners' access to knowledge and language learning opportunities.
12	Exploring AI chatbot affordances in the EFL classroom: young learners' experiences and perspectives	Jeon (2022) South Korea	Examining a list of chatbots' functions in English language classrooms and investigating how these functions impact the psychological aspects of language learners	Qualitative	The study revealed that educational, technological, and social features in English language learning impact learners in diverse ways, acting as opportunities and constraints. The study also demonstrated how these AI features influence language learners' psychological states and motivation. Chatbots can be utilized in a broader spectrum of language learning, and comprehensive interaction with chatbots can be achieved by digital sharing and downloading the software onto students' devices.
13	Exploring students' acceptance of an artificial intelligence speech evaluation program for EFL speaking practice: an application of the Integrated Model of Technology	Zou et al., (2023) China	An analysis of AI speech assessment systems for English language practice in higher education, using the Unified Theory of Acceptance and Use of Technology	Mixed-methods	The results indicated that (1) most participants found the AI helpful program enjoyable and easy to use. They also expressed a firm intention to continue using it. (2) Perceived

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
	Acceptance		(UTAUT) model		usefulness (PU) and perceived enjoyment (PE) were significant predictors of behavioral intention (BI) to use. Meanwhile, issues related to user interface design, accuracy of automated feedback, and especially the lack of face-to-face interaction were reported. The study confirmed the relationship between extrinsic and intrinsic motivations and behavioral intention to use. The results showed that the participating students had a generally positive attitude towards EAP Talk.
14	Exploring the potential of an AI-based Chatbot (ChatGPT) in enhancing EFL teaching: perceptions of EFL Faculty Members	Mohamed (2024) Saudi Arabia	An analysis of the perceptions of ten EFL faculty members at Northern Border University (NBU) regarding the effectiveness of ChatGPT in supporting their students' English language learning	Qualitative	Interview results revealed that faculty members held diverse opinions regarding the effectiveness of ChatGPT. Some acknowledged its usefulness in providing quick and accurate responses to various questions. Others expressed concerns that ChatGPT might hinder the development of student's critical thinking and research skills and potentially reinforce biases or misinformation. The case study perceives ChatGPT as a valuable tool to complement and

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
					enhance traditional English language teaching methods. Nevertheless, faculty members recognized the value of ChatGPT as a teaching and learning aid and recommended further empirical research to evaluate its effectiveness.
15	El Shazly, R. (2021). Effects of artificial intelligence on English speaking anxiety and speaking performance: A case study	Shazly (2021) Egypt	Investigating the role of AI applications in spoken practice to manage foreign language anxiety (FLA) among undergraduate participants in EFL classes in Egypt	Quantitative	The identified anxiety levels were facilitative in foreign language learning with several subsequent achievements. The use of conversationally enhanced AI chatbots in interactive activities slightly aggravated learners' anxiety. With further development, AI chatbots hold promise for significantly improving language output achievements. Also, this study showed that learners' anxiety related to speaking skills did not decrease after interacting with chatbots. Foreign language anxiety is facilitative in enhancing learners' cognitive abilities and language capacities.
16	Improving EFL learners' speaking skills and willingness to communicate via	Fathi et al., (2024) Iran	Examining the impact of an AI platform on English language learners' speaking	Mixed-methods	The results indicated that AI-mediated interactive spoken activities improved English learners'

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
	artificial intelligence-mediated interactions		skills, including fluency, lexical cohesion, grammatical range and accuracy, pronunciation, and willingness to communicate (WTC)		speaking skills and willingness to communicate more effectively. Additionally, learners held positive attitudes and perceptions toward AI-mediated spoken instruction. This study proved that AI-based interactions effectively improve English learners' speaking skills and willingness to communicate and that English learners generally hold positive attitudes and perceptions toward AI-mediated interactions.
17	Revolutionizing L2 speaking proficiency, willingness to communicate, and perceptions through artificial intelligence: a case of Speeko applications	Rad (2024) Iran	Examining the impact of AI on second language speaking skills, willingness to communicate, and perception using the Speeko Application	Mixed-methods	Based on the results, the experimental group exhibited significantly improved second language speaking skills, willingness to communicate, and perceptions compared to the control group. Integrating AI-based programs into language learning can potentially enhance learning outcomes. This study's findings provide empirical evidence demonstrating that AI-enhanced applications, such as Speeko, can significantly improve second language learners' speaking skills, willingness to communicate, and perceptions.

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
18	Modeling English teachers' behavioral intention to use artificial intelligence in middle schools	An et al., (2023) China	Investigating English teachers' understanding, knowledge, and behavioral intentions regarding the use of AI in supporting English language teaching and learning in middle schools	Efficiency Analysis	Performance expectations, social influence, technical knowledge of AI language, and pedagogical knowledge of AI technology positively influenced behavioral intention. Perceived effort, facilitating conditions, and pedagogical understanding of AI technology indirectly affected behavioral intention. The results indicate that English teachers have a generally positive and accepting attitude toward adopting an AI approach.
19	Learner interaction with, and response to, AI-programmed automated writing evaluation feedback in EFL writing: An exploratory study	Yang et al., (2024) China	A detailed examination of how university students learning English interact with feedback from Pigai, China's most extensive AI-powered automated writing evaluation program	Qualitative	Results showed interactions with Pigai focused on error correction feedback in the first two submissions. For one student with 12 submissions, error-free corrective feedback gradually increased and provided rich linguistic resources without examples or contextual information. The amount of feedback received by students with linguistic resources was much less than the error correction feedback and general feedback.

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
20	Research on the development of principles for designing elementary English-speaking lessons using artificial intelligence chatbots	Han & Lee (2024) South Korea	A systematic approach to designing elementary English conversation courses using AI chatbots	Design-based Research	The instructional design for elementary English conversation classes using AI chatbots follows a structured framework with activities centered around AI chatbot teaching and learning. Teachers can personalize this process based on their own experience. The AI approach can reduce social and economic disparities, and AI chatbots can improve second-language communication skills.
21	The impact of AI writing tools on the content and organization of students' writing: EFL teachers' perspective	Marzuki et al., (2023) Indonesia	A comprehensive review of existing AI writing tools and an evaluation of their impact on student writing, particularly in terms of content and structure, from the perspective of English teachers	Qualitative	This study showed that integrating AI writing tools into English language education significantly improved students' writing quality, particularly in content and structure. These tools created a comprehensive learning environment and enhanced students' academic performance and writing quality. However, concerns were raised about students becoming overly reliant on these tools, potentially hindering their critical thinking and problem-solving skills.

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
22	To resist it or to embrace it? Examining ChatGPT's potential to support teacher feedback in EFL writing	Guo & Wang (2024) China	Investigating the potential role of ChatGPT in facilitating English writing instruction and learning	Exploratory study	Results indicated that ChatGPT generated a significantly larger quantity of feedback than teachers. In contrast to teacher feedback, which primarily focused on content and language-related issues, ChatGPT distributed its attention relatively evenly among the three foci of feedback (i.e., content, structure, and language). Results also showed that ChatGPT and teachers tended to use different types of feedback when evaluating various aspects of students' writing.
23	Leveraging Artificial Intelligence (AI) Technology for English Writing: Introducing Wordtune as a Digital Writing Assistant for EFL Writers	Zhao (2023) -	Providing an overview of the Wordtune tool and its capacity to assist English language learners in writing, addressing both the advantages and limitations of this technology	Literature review	Wordtune can help English learners formulate or translate ideas into English and improve their writing quality. It can also motivate users while writing and prevent them from getting stuck on difficult English words or phrases. Wordtune is a promising application for writers keen on improving their English writing. However, it is not without limitations.
24	An Investigation into Artificial Intelligence Speech Evaluation Programs with Automatic Feedback for Developing EFL	Zou et al., (2023) China	Investigating whether various automated feedback provided by AI-powered speech assessment programs can	Mixed-methods	Results indicated that AI-powered speech assessment programs significantly improved participants' speaking skills, showing marked progress in pre- and

Row	Title	Author/ Year/ Country	Purpose	Method	Key Findings
	Learners' Speaking Skills		assist English language learners in developing their speaking skills		post-test scores. AI systems can provide more diverse textual feedback and practical suggestions to help English language learners develop their speaking skills. These programs can offer more input on fluency and pronunciation when reading aloud task texts and spontaneous speech tasks. They can also provide visual feedback and exercise suggestions, offer precise textual feedback, emphasize scoring system accuracy, and develop improved tracking functions to assist English learners in effectively developing their speaking skills.

Analysis of articles indexed in scientific journals from 2021 to 2024 reveals a significant increase in research concerning the application of AI in English instruction, with a particularly notable surge occurring in 2023 (Figure 4). This growth in research output is further contextualized by a geographical analysis, which indicates a concentration of research activity originating from China. Moreover, South Korea and Iran have also emerged as prominent contributors to the expanding literature on AI in English language education (Figure 5). Figure 4 visually depicts the upward trend in publication numbers over the specified period; Figure 5, on the other hand, offers a thorough summary of the worldwide distribution of research activity according to the locations of data and study samples that have been gathered. It highlights significant regional centers and illustrates the global reach of interest in AI-based language learning.

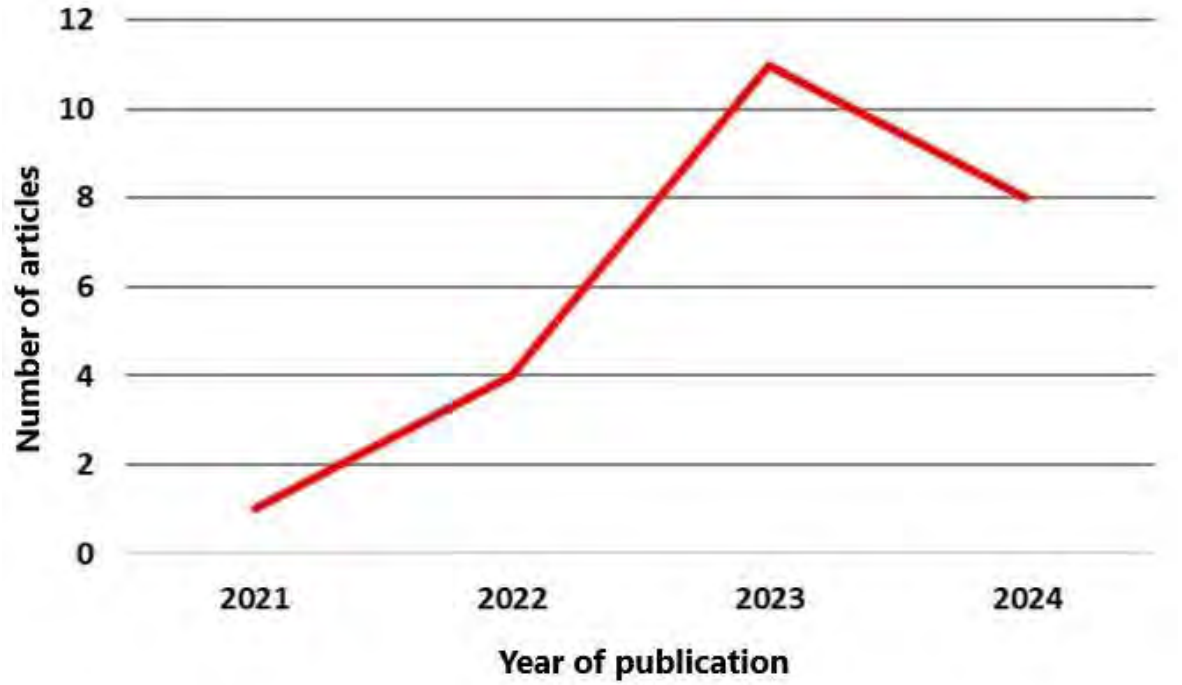

Figure 4. Line Graph of the Number of Indexed Articles per Year

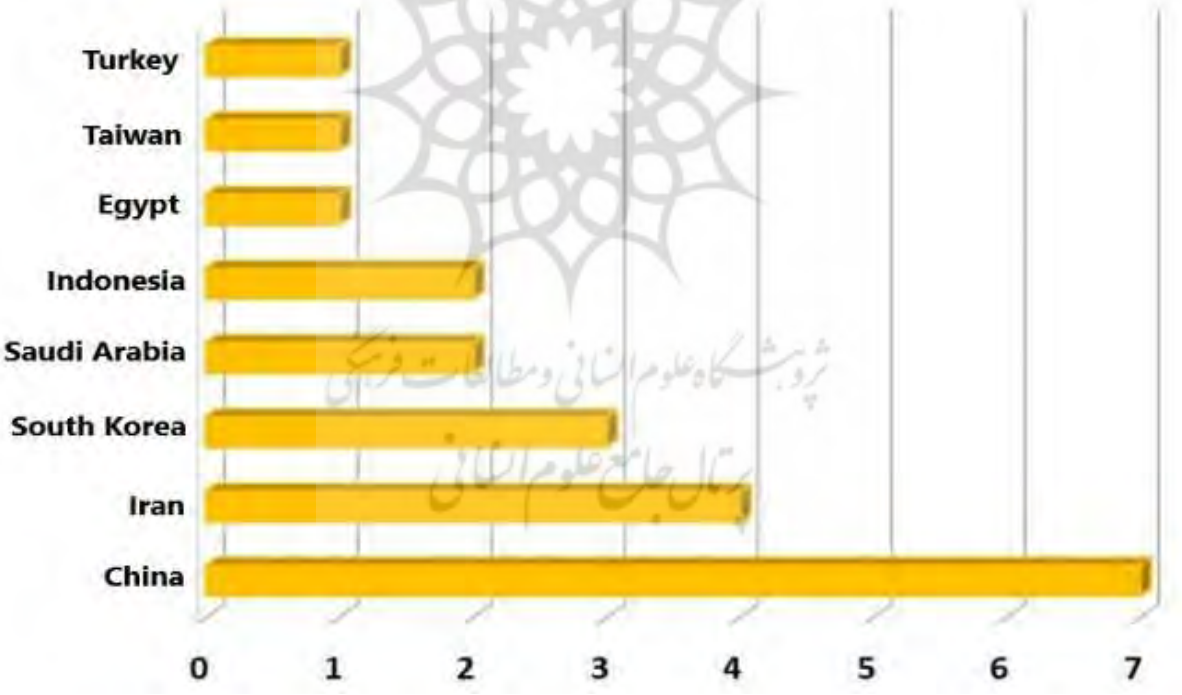

Figure 5. Bar Chart of the Geographical Distribution of Research

Note: Based on the Collected Data and Study Samples' Locations

Step 5: Analysis and Synthesis of Results

A qualitative evaluation of the data compiled in Table 3 was performed. With the aid of MAXQDA 24 software, pertinent themes were drawn from the findings and discussion

portions of the chosen research papers. This analysis led to the development of a structured coding system, starting with 42 basic open codes, which were then grouped into 14 intermediate axial codes and then condensed into five broad selective codes (categories). A second researcher (Second Author) separately analyzed a randomly picked portion of the data to verify consistency between coders. The level of agreement between the two coders was measured using Cohen's kappa, resulting in a value of 0.81—a statistically meaningful figure ($p \leq 0.05$)—demonstrating strong alignment. This thorough approach reduced personal bias and bolstered the trustworthiness of the derived categories. The entire coding structure, complete with explanations and supporting examples, is outlined in Table 3, ensuring clarity and reinforcing the credibility of the research outcomes.

Table 3. Categorization of Open, Axial, and Selective Codes (Themes)

References	Open Codes	Axial Codes	Themes
P7; P9; P12; P16; P17; P18; P20	Simplifying second language teaching methods, customizing language learners' experiences, learning beyond the classroom, enriching the comprehensive learning environment, and streamlining the learning environment.	Simplifying the Learning Environment	Conceptualization of AI
	Improving access to information technology, promoting technological collaboration among learners, facilitating the generation of technological ideas	Cooperation with Technology	
	Facilitating the learning of language skills (written and spoken), promoting the receipt of immediate feedback, facilitating learning with tools such as chatbots, sustainability in second language learning, fostering collaboration and learning between teacher-learner and learner-learner	Facilitating Learning	
P1; P4; P5; P13; P24; P16; P17; P18	Emotional support, stimulating interest, increasing the level of enjoyment of young language learners in learning English and their interest in reading English books, creating positive emotions (i.e., pleasure), pleasure perceived by learners, positive attitude and perception towards spoken language instruction, responding to learners' emotional needs	Emotional Support	Variables Related to AI

References	Open Codes	Axial Codes	Themes
P7; P9; P12; P16; P17; P18; P20	Increasing student participation, creating interaction and engagement between students and online teacher-led learning, comprehensive interaction with chatbots, improving English learners' speaking skills and their desire for more effective communication, willingness to communicate and perception, high social impact, enhancing second language communication skills.	Increasing Participation and Social Interaction	
P7; P8	Strengthening critical and creative thinking, moving beyond norms, analyzing contexts and evaluating evidence, enriching various aspects of critical thinking, such as academic research and theoretical examination	Strengthening Critical Thinking and Creativity	
P7; P9; P14; P19; P22; P24	Faster feedback to students, clear explanations, demonstration, practice, reflection, and quick feedback, request for feedback, providing quick and accurate answers to a wide range of questions, error-free corrective feedback, relatively equal distribution among the three feedback foci (i.e., content, structure, and language) unlike teacher feedback, providing visual feedback and exercise suggestions, and accurate textual feedback.	Quick Feedback to Learners	
P1; P5; P6; P10; P13; P17; P18; P21; P23;	Higher performance in second language learning, conscious satisfaction with learning performance, providing opportunities for high-performance conversational practice, better speaking skills, high-performance expectations, improving the quality of students' writing, especially in content and language structure, improving students' academic performance and writing quality, improving writing quality, improving learners' speaking skills	Better Performance of Language Learners	

References	Open Codes	Axial Codes	Themes
P1; P4; P6; P9; P14; P21	Reimagining an effective learning environment, a valuable aspect for practicing a second language, creating more positive perspectives in student learning through chatbots, helping learners to read terms of service and develop literacy, creating a balance between teacher-centered and student-centered teaching approaches for online learning experiences, complementing and enhancing traditional English language teaching methods, creating a comprehensive learning environment.	Effective Learning Environment	
P1; P3; P4; P10; P12; P13; P23	Increasing motivation in language learning, the pleasure of learning English, boosting motivation, learner motivation with social presence, psychological states and learner motivation, extrinsic and intrinsic motivation, motivating users during the writing process	Strengthening the Motivation of Language Learners	
P3; P4; P10; P15	Lower anxiety and higher communicative self-confidence, reduced writing stress and anxiety, learners' enthusiasm and confidence in learning English, and foreign language anxiety play facilitating roles in strengthening learners' cognitive abilities and language capacities.	Psychological Factors	
P13; P14	Practical, enjoyable, and easy for learners to use, practical and enjoyable language learning for students	Being Useful and Enjoyable	Integration Challenges
P2; P14	As a teaching and learning aid, the freshness and need for innovation alongside current learning	Recency Effect	
P2; P12; P18; P20	Digital sharing and downloading of software onto students' devices, technical knowledge of AI language, educational understanding of AI technology, adherence to a structured framework for the use of AI chatbots	Technological Integration	
P2; P7	The need for digital literacy skills, limitations in technological resources among learners	Technological Limitations	Limitations
P7; P8; P24;	Over-reliance on generated content, difficulties in	Problems and	

References	Open Codes	Axial Codes	Themes
P14; P21	accurate comprehension, issues related to user interface design, the accuracy of automated feedback, and especially the lack of face-to-face interaction hinder the development of student's critical thinking and research skills.	Obstacles	
P8; P14	Lack of personalization, potential for echo chambers, reinforcement of biases or misinformation	Lack of Personalization	
P2	Its development has been implemented to some extent, starting from basic discourse.	The Initial Stage	
P6; P7; P11	Different countries' data protection laws, such as COPPA in the United States and GDPR in Europe, the familiarity of institutional managers with privacy laws and respect for them, and ethical issues	Privacy Protection	The Future of AI (Foresight)
P11; P20	The need for equity and access to tools, the cost of paid subscriptions for more services, unequal access to knowledge and language learning opportunities for learners, and the reduction of social and economic disparities	The Issue of Educational Justice	
P14; P15; P23	More empirical research is needed to evaluate its effectiveness, but the language model's output is promising, making it a promising program for the future of English language writers.	Needs for Research and Development	

Step 6: Quality Control

Several critical factors were meticulously addressed to ensure the highest quality standards in this research. First, a strong emphasis on transparency was maintained throughout all stages of the study, encompassing the careful selection of articles and a thorough analysis of their findings. Second, an exhaustive review of resources relevant to integrating AI into EFL education was conducted. This comprehensive literature review spanned various periods, enabling a robust and validated comparison of results. Furthermore, Cohen's kappa coefficient was employed to establish the reliability and validity of the findings. Subsequently, two expert university faculty members specializing in educational technology within language learning meticulously evaluated the results. Both experts agreed on extracting distinct concepts, axes, and themes. The kappa index was again applied further to validate the quality of these extracted

concepts and categories. The resulting kappa coefficient for this research was calculated to be 0.86, a statistically significant value at ($p \leq 0.05$). Therefore, it can be confidently concluded that the extracted codes demonstrate high reliability.

Step 7: Presentation of Findings

This research synthesis's seventh and final phase comprehensively integrates the findings from all preceding stages. Specifically, through analysis of the assembled research, this culminating phase directly addresses the central research questions concerning the conceptualization of AI integration within English language learning. This analysis encompasses a detailed examination of the included studies' methodological foundations, identifying key variables influencing AI integration and critically evaluating the challenges encountered during AI implementation. Consequently, these synthesized elements are visually represented and theoretically grounded within a comprehensive conceptual model (Figure 6).

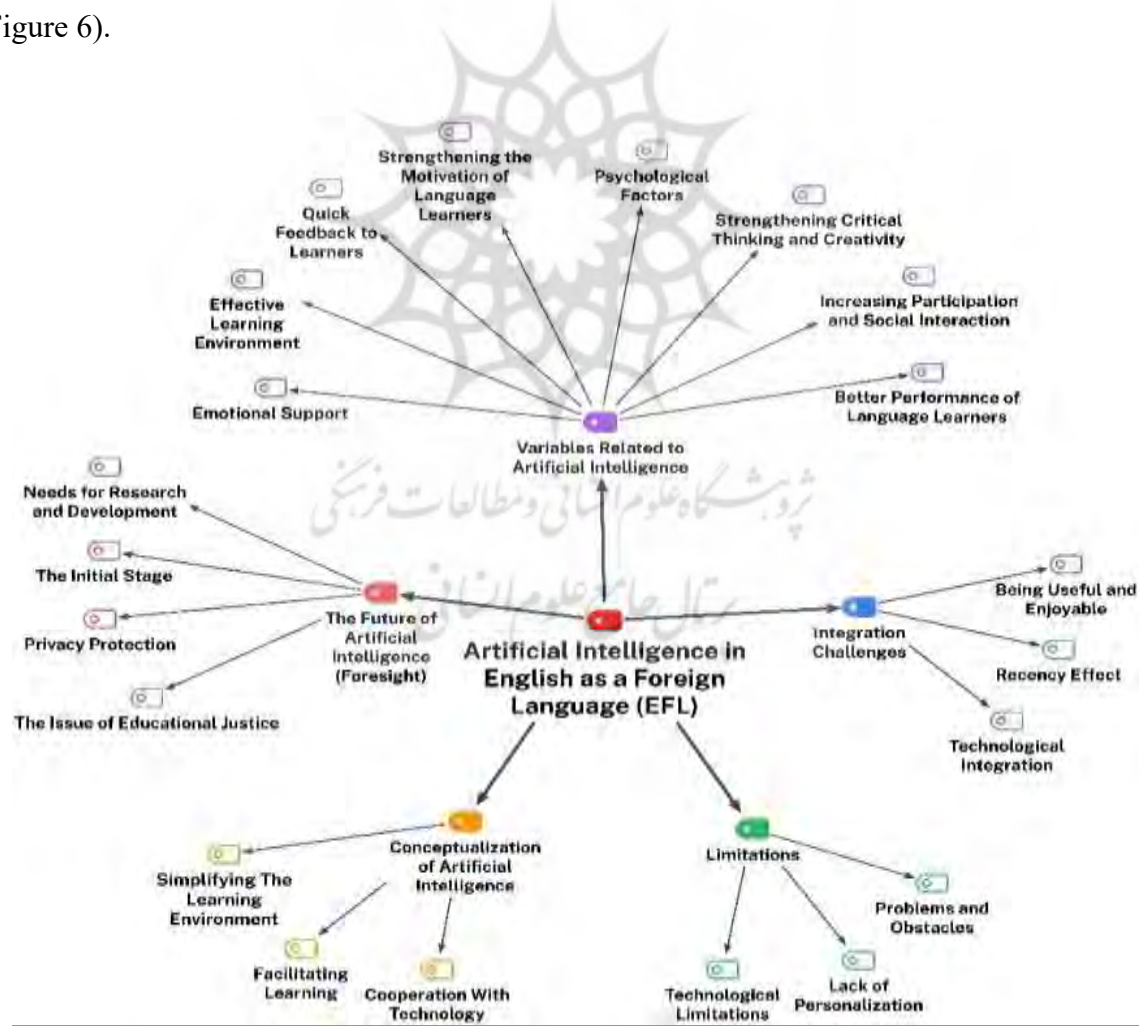

Figure 6. Conceptual Model Drawn from Research Results

Table 3 presents the coding results derived from the research findings, identifying five principal themes and 21 subthemes. These themes encompass a range of perspectives on AI in education. Firstly, the "Conceptualization of AI" theme explores simplifying the learning environment, fostering collaboration with technology, and enhancing overall learning outcomes. Secondly, "Variables related to AI" examines the impact of AI on various aspects of the learning process, including providing emotional support, increasing participation and social interaction, promoting critical thinking and creativity, delivering timely feedback, improving language learner performance, creating effective learning environments, enhancing motivation, and addressing psychological factors. Thirdly, "Integration challenges" consider the practical aspects of implementing AI in educational settings, focusing on usability, enjoyment, recency effects, and the complexities of technological integration. Fourthly, "Limitations" addresses the inherent constraints of AI in education, such as technological limitations, specific issues and obstacles encountered, and the current lack of personalization. Finally, "The Future of AI (Foresight)" explores potential developments, including the current initial stage of AI integration, concerns regarding privacy protection, the pursuit of educational justice, and the recognized need for further research and development in this field. The analysis encompassed 24 studies, with a majority conducted within Asia. Notably, seven studies originated from China. While variations were observed across the studies, likely attributable to differences in sample populations and methodologies, the qualitative data generally pointed towards positive outcomes of AI in the EFL curriculum.

Furthermore, Figure 7 illustrates the thematic density of the extracted themes. This visualization reveals a primary emphasis on "Variables related to AI in English learning," suggesting a strong focus on AI's direct impacts on learning. Conversely, "Limitations" and "Integration challenges" received comparatively less attention, highlighting the need for further research and investigation in these areas.

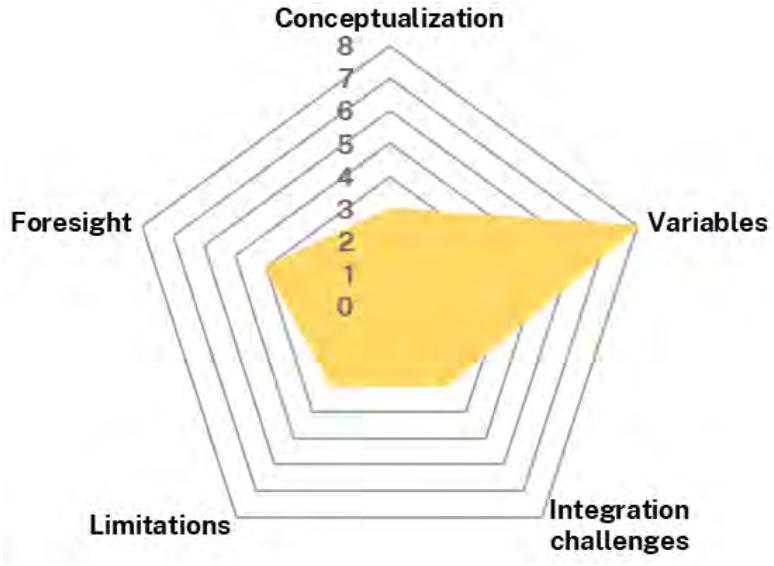

Figure 7. Radar Chart of Qualitative Analysis

Discussion and Conclusion

AI has revolutionized English language education by providing individualized, interactive learning experiences and helping instructors with curriculum design, grading, and progress tracking, increasing efficiency, effectiveness, and production (Mohamed, 2024). This study interpreted comprehensive findings from prior research on AI's impact on English language learning.

Initially, research indicates that AI-driven tools enrich learning beyond the classroom, simplify teaching methodologies, and improve learners' academic performance (Mohamed, 2024; Qasem et al., 2023). Researchers generally agree that AI in English language learning enhances access to information, fosters creativity and critical thinking (Huang et al., 2021; Wang & Kokotsaki, 2018), facilitates more straightforward assessment and evaluation, promotes learner collaboration, and reduces learning isolation (Ghafouri, 2024).

Furthermore, integrating AI into English language education supports self-directed learning, offering numerous benefits to language learners (Darwin et al., 2023; Kartal, 2024; Hong, 2023). Specifically, AI-powered interactive speaking practice has significantly enhanced learners' speaking abilities and motivation (Fathi et al., 2024; Vladova et al., 2021). These programs also provide personalized feedback, boosting learner confidence and contributing to positive academic outcomes (Rad, 2024) while effectively addressing learners' emotional needs (Wong et al., 2022). Consequently, by customizing experiences, providing immediate feedback, and creating supportive environments, AI-powered tools demonstrably

enhance English language acquisition, explicitly improving speaking skills, bolstering confidence, and increasing willingness to communicate.

Moreover, researchers suggest that AI can enhance English language learning by personalizing instruction, strengthening teacher-learner and learner-learner collaboration, reducing stress, and providing practical solutions to teaching obstacles (Ghafouri, 2024). Various AI-powered tools enrich the learning experience by improving learners' writing abilities and creating a more comprehensive learning environment (C. Liu et al., 2021). Beyond simply enhancing scores, AI writing tools offer promising capabilities for learners to effectively express ideas, enrich content, facilitate idea generation, and creatively solve problems (Marzuki et al., 2023; Y. Liu et al., 2022). While these tools enhance academic achievement and positively impact writing coherence and structure, concerns regarding over-reliance remain (Marzuki et al., 2023). Nonetheless, integrating AI writing tools can ultimately elevate learners' writing quality. Regarding speaking skills, AI programs offer ample practice and improve English language speaking through interactive and adaptive methods (Chang et al., 2022; Rad, 2024). AI speech assistants provide personalized experiences, help adjust accents and control speaking speed, foster comfortable interactions, and enhance language skills, confidence, and enthusiasm (Zhang et al., 2024). Finally, AI chatbots reduce stress and increase comfort in practicing speaking in stress-free environments, improving fluency, coherence, vocabulary, grammar, and pronunciation (Chaisiri, 2023; Fathi et al., 2024; Ma et al., 2022).

Beyond skill development, AI technology offers numerous psychological and emotional benefits in English language learning. Furthermore, AI can strengthen the teacher-learner relationship, reduce negative emotions, promote learner interaction, and thus increase the sustainability of English language learning (Ghafouri, 2024; Xie & Derakhshan, 2021), contributing to learners' enjoyment (Zhang et al., 2024). Although chatbots have limitations in interaction and are prone to errors, they aid language learning by improving skills and reducing anxiety (Alrajhi, 2024). Learners view chatbots as valuable tools for effective interaction. Also, teacher perceptions influence classroom use (Divekar et al., 2021; Fryer et al., 2020; Jeon, 2022; Timpe-Laughlin et al., 2020). Beyond enjoyment and efficiency, AI tools significantly impact learners' social and emotional perceptions (Kwon et al., 2023; Pelau et al., 2021), providing opportunities for conversation practice and improving various aspects of language learning, including skills and motivation (Ebadi & Amini, 2022; Han & Lee, 2022). Consequently, AI literacy, enabling teachers to evaluate, communicate with, and utilize this technology, becomes crucial (Liu et al., 2024; Weng & Chiu, 2023). Chatbots that

mimic human interaction can increase learner motivation and social presence (Araujo, 2018), and integrating AI communication tools can enhance motivation and learning experiences in English classrooms (Araujo, 2018; Ebadi & Amini, 2022).

However, while acknowledging AI's benefits and growing potential in English language education, it is essential to recognize its limitations and challenges. Research emphasizes the need for accurate evaluation and understanding of AI tool limitations before its integration to maximize benefits and minimize drawbacks (Rudolph et al., 2023). Researchers have stressed the need for conscious use of AI technology due to its shortcomings (Cotton et al., 2023), identifying challenges such as inaccurate responses, reduced learner independence (Dwivedi et al., 2023), and limitations in accuracy and cultural sensitivity (Zhao, 2023). Effective integration requires assessing learners' needs (Mohamed, 2024). Despite their widespread use, Chatbots face challenges in understanding mistakes and replicating human experiences (Fathi et al., 2024), while worries about excessive dependence continue (Kasneci et al., 2023). Given the importance of teacher-student relationships, AI should complement traditional methods, preserving the teacher's central role (Mohamed, 2024). To optimize AI's benefits, teachers require technical and specialized training before integrating these tools (Chen et al., 2020; Holmes & Tuomi, 2022), as this has shown positive impacts on teaching effectiveness, skills development, practice opportunities, and classroom interaction. Based on these limitations, effective AI integration requires empowering learners with independent learning methods, targeted assignments, and a proper understanding of AI's impact. Responsible integration also necessitates educating learners about data collection and other related concerns. Therefore, AI tools can enhance English language education through conscious, planned, balanced integration that maintains learner motivation.

Finally, integrating AI tools into face-to-face instruction to facilitate information retrieval, provide targeted feedback, cultivate critical thinking, and personalize learning pathways offers another promising strategy. By tailoring experiences to individual needs and interests, AI has the potential to enhance classroom outcomes significantly. However, further research is crucial to exploring and fully optimizing these tools' pedagogical applications.

Limitations

This study acknowledges several limitations in its data collection and analysis. The review was confined to sources from 2021 to 2024, excluding relevant pre-2021 studies, which may impact the comprehensiveness. The focus on peer-reviewed scholarly articles from reputable databases also overlooked insights from alternative sources like organizational reports. The

research synthesis methodology, while beneficial, remains subject to the researcher's biases despite efforts to uphold methodological rigor. The findings, drawn from various educational systems, cannot be generalized without considering each context's unique characteristics. Furthermore, the variability in statistical samples across the articles posed challenges in comparison and synthesis. Despite these limitations, the study aims to provide a comprehensive overview of the benefits and challenges of integrating AI into EFL classrooms. We hope this study will catalyze further research in this area, encouraging scholars to explore the potential of technology-based language instruction.

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