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A Narrative Review of English Language Learning and Artificial Intelligence

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ABSTRACT

With the introduction of digital technology and artificial intelligence, learning English is changing dramatically. By combining the results of the previous ten years of research, this study, which is being conducted using the narrative review method, aims to fill these gaps by offering a thorough grasp of the present trends, difficulties, and potential future directions in the use of AI to English language learning. The majority of current research is on the effectiveness of certain AI technologies, paying little consideration to the long-term impacts on learners' sociocultural competency, language ability, and retention. Furthermore, the majority of research to far has focused on English as a foreign language, with little attention paid to how AI can facilitate multilingualism or the acquisition of English as a second language in various sociocultural contexts. We present GenAI technology in English learning as a novelty of the research. Studies examining the pedagogical, cultural, and ethical ramifications of widespread AI deployment in language instruction, particularly in non-Western contexts, are also lacking. This study using narrative review methods and highlights both the exciting promise and the difficulties of integrating GenAI technology, providing insightful information about the changing field of AI use in English learning. Conducting empirical research on the principles in this study is one suggestion for future research.

Keywords: artificial intelligence; English language learning; narrative review

INTRODUCTION

Learning English is being transformed by artificial intelligence (AI), which provides individualized, flexible, and engaging experiences. AI-powered solutions that address individual needs, offer real-time feedback, and encourage engagement through gamification include chatbots, intelligent tutoring systems, and language learning applications (Anh, 2024; Ulfa, 2023). In addition to increasing instructor effectiveness, these technologies improve student competency, autonomy, and learning outcomes (Umar, 2024). But there are issues with algorithmic bias, data privacy, and the possible loss of human engagement in language acquisition (Umar, 2024; Viktorivna et al., 2022). High levels of knowledge and anxiety regarding AI in language acquisition were found in a study of university students in Ukraine, especially with relation to cyberattacks and the lack of spontaneity (Viktorivna et al., 2022).

Collaborative efforts between educators, legislators, academics, and technology developers are required to address these issues and fully utilize AI in English language instruction while ensuring its responsible and fair application (Umar, 2024).

With the introduction of digital technology and artificial intelligence, English language instruction is changing dramatically (Wang et al., 2024). AI has become a powerful force that has the potential to transform education because of its ability to mimic human intelligence and adjust to the unique learning requirements of each student (Sun et al., 2022; Wu et al., 2020). Personalized and contextually relevant language learning possibilities, like those in out-of-class learning environments, could be greatly aided by generative artificial intelligence (GenAI), a subset of artificial intelligence that involves the synthesis of material by machines (Shinde et al., 2021). A trend and calculated reaction to the changing demands of language learners in a digitally linked society is the use of AI in these settings (Godwin-Jones, 2019). Research indicates that learners' motivation (Ebadi & Amini, 2024), engagement (Huang et al., 2023), and language competency (Tai, 2024) have all significantly improved when AI techniques are incorporated into language learning programs. A more dynamic and captivating language learning experience is made possible by GenAI's capacity to offer real-time language practice, adaptive learning paths, and quick feedback (Ai, 2017).

Traditional learning paradigms have changed as a result of AI's integration into education, especially when it comes to language acquisition. Given the significance of English as a lingua franca around the world, its role in English language acquisition has drawn the most attention among the many uses of AI in education. From language learning applications to intelligent tutoring systems, AI-powered tools and platforms present exciting chances to improve learning outcomes, increase engagement, and customize instruction. Though AI's potential in this area is well acknowledged, there is still continuous discussion about its precise effects and effectiveness in enhancing language proficiency.

By highlighting significant trends, obstacles, and opportunities for future advancements, this narrative review seeks to offer a thorough synthesis of the body of research on the application of AI in English language acquisition. Examining the body of research on AI's effects on language acquisition, its pedagogical implications, and its ethical considerations is imperative given how quickly the subject is developing. By combining the results of several studies carried out over the past ten years, this review aims to draw attention to current gaps in the literature and offer insights that can guide both scholarly research and real-world applications for teachers and students everywhere.

The significance of this study stems from the ability to overcome language competence gaps among a variety of student populations as well as the quick development of AI tools in educational settings. Learner autonomy, teacher preparation, and curriculum design are all significantly impacted by our understanding of how AI can be used to improve English language acquisition. Furthermore, in order to prepare students to interact meaningfully with digital tools, it is essential to comprehend how AI technologies function in language acquisition as they become more and more integrated into everyday life.

INFORMAL DIGITAL ENGLISH LEARNING

Informal Digital Learning of English (IDLE) is defined as self-directed, informal digital English learning that is not dependent on formal contexts. It is based on Benson's (Benson, 2011) out-of-class learning framework, which elaborates on "formality," "location," "pedagogy," and "locus of control" (Lee Ju Seong & Dressman, 2018). According to this concept, self-directed language learning activities that take place outside of regular classroom settings are referred to as out-of-class learning. This framework bulit by expanding the dimensions and presenting a more complex identification of IDLE (Reinders, 2020). They

divide it into two categories: "extra-curricular IDLE," which is linked to formal education (e.g., using digital dictionaries for vocabulary learning) and "extramural IDLE," which is characterized by a lack of connections to teacher-based formal instruction and/or standardized tests. This advanced classification acknowledges the various relationships between IDLE activities and educational settings. Furthermore, IDLE activities have separated into two groups: "receptive" and "productive" (Lee & Drajati, 2019). While the latter focuses on students producing digital content in English, the former describes activities where students use digital inputs to learn English independently. A nuanced viewpoint on how students engage in IDLE activities is provided by this dual classification. In an attempt to improve these dimensions and give a more thorough explanation of IDLE practices, researcher adds a dichotomy to IDLE activities, "synchronicity," "flexibility," "setting," and "grouping" to the matrix (Lee, 2019). For a more thorough characterization of IDLE practices, apply the terms "grouping," "setting," "flexibility," and "synchronicity" to the matrix.

ENGLISH LANGUAGE LEARNING WITH GENAI

GenAI is characterized as a system that, after being educated on large amounts of data, can use a large language model to communicate with human users. The most popular kind of autonomous, self-directed GenAI usage is AI chatbots, which is a productive and responsive IDLE activity (Yang et al., 2022). Whether chatbots are employed or not, GenAI is a prompt-based interaction system that requires EFL students to read or listen to the generated contents (the receptive side) and give written or spoken prompts (the producing side) during human–machine interaction (Pack & Maloney, 2023). The interactions could occur with or without official incorporation into the school system (Zhang, 2022). For example, it has been found that students utilize GenAI to compose English for extracurricular activities related to formal education taught by teachers (Barrett & Pack, 2023; Rad et al., 2024). Furthermore, students use GenAI to help them socialize by facilitating cross-cultural communication (Mahboob et al., 2024). Due to its unclear relationship to learning goals, the latter in particular is seen as extra mural activities (Lee & Sylvén, 2021). Therefore, although some research, such as Liu & Ma (2023), suggests that GenAI usage may be "self-motivated autonomous English learning activities in the broader extramural digitalized learning ecology," research (Barrett & Pack, 2023) has shown that GenAI usage could also become an extracurricular activity used for educational purposes (G. Liu & Ma, 2023).

EDUCATION AND ARTIFICIAL INTELLIGENCE

The use of artificial intelligence (AI) in educational contexts is growing, presenting both enormous obstacles and transformative opportunities. AI technologies, including machine learning, speech recognition, natural language processing (NLP), and adaptive learning systems, have been used in language learning to establish customized learning environments. These systems can simulate interactions that resemble language use in the actual world, offer real-time feedback, and evaluate learner data to customize material (X. Liu et al., 2025). AI has emerged as a viable technology for improving language instruction worldwide due to its ability to process enormous volumes of data and modify learning experiences according to individual needs.

AI-POWERED RESOURCES FOR LEARNING ENGLISH

A number of AI-based resources and platforms have become major forces in the English language learning market. AI algorithms are used by well-known systems like Duolingo and HelloTalk to provide immediate feedback on grammar and pronunciation, customize learning

paths, and suggest lessons based on user progress (Khasanah et al., 2025). Similarly, by offering instantaneous remedial feedback, speech recognition software like Apple's Siri and Google Assistant has proven essential in helping students with their listening and pronunciation.

AI is used by adaptive learning platforms, like those created by Pearson and other educational technology firms, to modify the level of difficulty of lessons and the way that content is delivered in accordance with the needs of each individual student. Additionally, conversational practice is made easier by AI-powered chatbots and virtual instructors, like those found in language learning applications and websites, which give students the opportunity to have meaningful conversations outside of the traditional classroom (Rachmawati et al., 2025).

AI'S ADVANTAGES FOR ENGLISH LANGUAGE LEARNING

There are numerous important advantages to incorporating AI into English language instruction. First, by offering personalized, adaptive, and interactive learning experiences, AI can raise learner motivation and engagement. AI solutions keep students engaged in the learning process by providing instant feedback and encouraging a sense of advancement. Second, particularly in settings with limited access to qualified language teachers, AI-based systems aid in bridging the gap between students and teachers. Third, by offering on-demand, round-the-clock practice chances, AI technologies can help extend language practice outside of the classroom. This is particularly beneficial for self-directed learners and those studying English in non-English speaking contexts.

LIMITATIONS AND CHALLENGES

Despite these advantages, the application of AI in English language learning is not without its challenges. One major issue is the reliability and accuracy of AI-driven feedback. While AI tools have made significant strides in assessing language proficiency, errors in speech recognition or incorrect grammar corrections can lead to frustration and confusion for learners (C. Liu et al., 2023). Moreover, AI systems often lack the nuanced understanding that human instructors bring to language teaching, particularly when it comes to idiomatic expressions, cultural context, and the subtleties of tone and emotion in communication (Godwin-Jones, 2019).

Another key challenge is the equity of access to AI-based learning tools. While AI has the potential to democratize language learning, the availability of high-quality AI-powered tools is still heavily dependent on access to technology, such as smartphones, reliable internet connections, and advanced computing systems. Furthermore, privacy concerns regarding the data collected by AI systems-particularly in relation to student performance, language use, and personal information, remain an important issue that needs to be addressed.

PEDAGOGICAL AND ETHICAL IMPLICATIONS

Significant pedagogical and ethical issues are also brought up by the extensive usage of AI in English language instruction. The possibility that AI systems would take the role of human teachers raises serious concerns since it would limit the amount of time that students and teachers can engage, which is crucial for encouraging motivation, social learning, and emotional support (Winkler et al., 2020). Furthermore, rather than helping students acquire the ability to speak critically and freely, the automation of some language learning processes may unintentionally encourage them to become unduly dependent on technology.

THE LITERATURE'S GAPS

There are still a number of gaps in the growing corpus of research on AI in language acquisition. The majority of current research is on the effectiveness of certain AI technologies, paying little consideration to the long-term impacts on learners' sociocultural competency, language ability, and retention. Furthermore, the majority of research to far has focused on English as a foreign language, with little attention paid to how AI can facilitate multilingualism or the acquisition of English as a second language in various sociocultural contexts. Studies examining the pedagogical, cultural, and ethical ramifications of widespread AI deployment in language instruction, particularly in non-Western contexts, are also lacking. By combining research findings from the past ten years, this narrative review will attempt to fill in these gaps and offer a thorough grasp of the current trends, difficulties, and potential paths in the use of AI to English language acquisition.

GAPS OF THE RESEARCH

Even while artificial intelligence (AI) is becoming more and more popular as a tool for learning English, there are still many unanswered questions about the full extent of its effects, difficulties, and future development potential. Although a large amount of research has looked at specific AI tools, like speech recognition software, intelligent tutoring programs, and language learning applications, very few studies have offered a thorough analysis of how these tools work together to support English language learning. Furthermore, a large portion of the literature to far has concentrated on the efficacy of AI in particular, isolated circumstances, ignoring wider educational, ethical, and cultural ramifications.

The dearth of long-term research investigating the long-term effects of AI on language learners' competency is one significant gap. Less is known regarding the long-term effectiveness of AI-based platforms and whether or not these gains translate into meaningful, real-world language use, despite the fact that many of them claim positive short-term improvements in vocabulary, grammar, and fluency. Additionally, the majority of the current research on AI in language learning is focused on high-income, Western nations, leaving the potential advantages and drawbacks of these technologies in diverse, non-Western, and low-resource contexts largely unexplored.

The inadequate examination of the pedagogical and ethical issues related to AI in education is another significant gap. Although they are frequently debated separately, topics like algorithmic bias, data privacy, and the possibility that AI will eventually replace human teachers are not thoroughly examined in relation to language learning. Additionally, little is known about AI's pedagogical role, especially in connection to its incorporation into conventional classroom environments and its effects on student autonomy, teacher-student interactions, and sociocultural learning experiences.

By providing a comprehensive, narrative synthesis of recent AI applications in English language acquisition, this review aims to close these gaps by highlighting the advantages and disadvantages of these technologies. By doing this, the review will offer a more sophisticated comprehension of the function of AI in language learning, its constraints, and possible future paths for both practice and research. The following research questions will direct the examination of the body of literature on the application of AI in English language acquisition in light of the review's objectives: (1) to identify the AI tools and technologies most commonly utilized in English language learning today; (2) to examine the extent to which AI-based tools improve learners' English language skills; (3) to analyze how the use of AI in English language instruction affects pedagogy, ethics, and culture; (4) to explore the potential effects of artificial intelligence on language learners' long-term memory and usage of English.

METHODOLOGY

We carry out narrative reviews (Hadjipanayi et al., 2025), which investigate the application of artificial intelligence (AI) in the study of English language learning. Narrative reviews provide a flexible and rigorous approach to analyzing and interpreting literature on a chosen topic (Sukhera, 2022). Key steps in conducting narrative reviews include establishing a clear rationale, defining boundaries and scope, justifying inclusion criteria, and ensuring reflexivity (Sukhera, 2022). While narrative reviews have been criticized for lacking synthesis and rigor compared to systematic reviews, they allow for broader scope and the ability to raise questions and stimulate further research (Sarkar & Bhatia, 2021). To improve the quality of narrative reviews, peer reviewers should consider the needs of both expert and non-expert readers, ensuring reliability and accessibility (Byrne, 2016). Despite their limitations, narrative reviews remain valuable in helping researchers make sense of the growing scientific literature (Byrne, 2016).

RESULT AND DISCUSSION

Artificial Intelligence (AI) has the potential to revolutionize English language learning for both teachers and students by providing scalable, data-driven, and customized approaches to improve language acquisition. Nevertheless, a thorough and methodical evaluation that summarizes the available data and highlights the advantages and disadvantages of AI technologies is still required, even in light of their quick spread in educational settings.

The development of the "thinking machine" program by Newell and Simon, which attempted to replicate human cognitive abilities to solve complicated problems, marked the beginning of Artificial Intelligence (AI) in 1956 and a watershed in the history of technology ((McCarthy, 2007; Newell & Simon, 1956). This finding gave rise to the field of AI in Education (AIED), which seeks to apply AI technology to improve decision-making, teaching, and learning. By creating intelligent tutoring systems, adaptable learning resources, and sophisticated advising platforms, AIED aims to deliver personalized educational experiences while boosting the efficacy of learning interventions (Chiu et al., 2023). These advancements represent a paradigm shift away from only technical innovations and toward more responsive, adaptable, and inclusive teaching strategies. However, incorporating AI into education necessitates a thorough examination of ethical concerns, data protection, and the potential to maintain existing inequities. The field of AIED must advance with a commitment to diversity, inclusivity, and learner autonomy to ensure that AI serves as a catalyst for transformative teaching practices.

The application of GenAI to English language training has spurred scholarly research into how educators and learners adapt to and perceive this technological innovation. Studies by researchers (Kohnke et al., 2023; Moorhouse et al., 2024) specifically examined how prepared language instructors at Hong Kong institutions were to use GenAI tools in their instruction. These studies demonstrate a critical relationship between educators' confidence and proficiency with GenAI technology and the difficulties and worries they encounter throughout adoption attempts. According to the findings, faculty proficiency with GAI has to be improved immediately through ongoing professional development and specialized institutional support—a support system that is noticeably absent across the range of international higher education institutions (Moorhouse et al., 2024). Research within Vietnamese and Saudi Arabian academic contexts have revealed a reluctance among faculty to integrate GenAI tools into their teaching, largely due to a lack of familiarity with these technologies and concerns over academic integrity (Alammari, 2024).

Several innovative uses of GenAI have been investigated in previous studies, each of which is appropriate for a particular aspect of language learning. By giving the students, a virtual environment where they can practice speaking through interactive dialogues, Call Annie is a tool that can be used to enhance conversational practice (Wan & Moorhouse, 2024). ChatGPT could be utilized to enhance students' written communicative abilities and foster development in written expression and comprehension by providing real-time feedback and developing writing prompts that assess students' language use (Wan & Moorhouse, 2024). Quizizz AI gives students the ability to take charge of their education by customizing quizzes to each student's learning preferences and pace (Anggoro & Pratiwi, 2023). In order to enhance cognitive engagement, researchers (M. Liu et al., 2024) investigated the use of AI-facilitated digital multimodal compositions, which blend several media kinds. Students benefit from improved language comprehension and longer retention as a result. Through the introduction of more individualized, captivating, and responsive educational experiences in the field of language learning, these varied implementations not only demonstrate GenAI's adaptability to educational needs but also its potential to revolutionize conventional learning paradigms.

GenAI has the potential to assist language learners in developing critical thinking skills, which are essential to language training, since it pushes students to analyze, assess, and synthesize content (Chan & Lee, 2023; Dai et al., 2026). GAI tools assist with this by providing students with difficult language challenges that need higher-order cognitive skills. For instance, ChatGPT can include writing exercises that assess students' understanding of difficult language ideas or questions that encourage them to take part in thought-provoking conversations (Tran & Tran, 2023). Educational organizations are tasked with integrating artificial intelligence as a secondary tool to conventional pedagogy, ensuring that intellectual honesty and analytical reasoning remain paramount (Nguyen, 2025). Successful implementation relies on the synergy between humans and AI, alongside the provision of inclusive access for all students, and a focus on ethical standards, data security, and AI proficiency is vital to protect student welfare and equip the academic community for a shifting technological environment (Nguyen, 2025).

Along with enhancing language proficiency, this skill prepares students for real-world communication scenarios where critical thinking is essential. However, there are disadvantages to employing GenAI in English language training, particularly with regard to the academic integrity and originality of student work. GenAI can affects research originality that students' reliance on AI-generated information may impair their ability to produce authentic work (Hutson, 2024). This concern is shared by Alasadi and Baiz (2023), who argue that while GenAI can aid in learning, students may become less engaged in language activities if they rely too heavily on it to generate content. Thus, educators need to find a balance between ensuring that students are actively engaged in the language learning process and using GenAI to help them.

CONCLUSION AND RECOMMENDATION

This study highlights both the exciting promise and the difficulties of integrating GenAI technology, providing insightful information about the changing field of AI use in English language learning. Conducting empirical research on the principles in this study is one suggestion for future research.

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