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Using Artificial Intelligence to Enhance Language Acquisition in Educational Settings

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ABSTRACT
This study explores the role of artificial intelligence (AI) in enhancing language acquisition within educational settings. The focus was given on implication of AI in its capacity to transform traditional pedagogical practices. By reviewing a wide range of AI applications, including adaptive learning platforms, natural language processing tools, and conversational agents. The research identifies both the benefits and challenges of integrating AI into language education. The findings reveal that AI significantly improves learner outcomes through personalized instruction, real-time feedback, and gamified engagement strategies. These strategies collectively foster vocabulary development, grammatical accuracy, and oral fluency. Moreover, AI broadens accessibility by offering flexible and continuous opportunities for independent learning, especially in under-resourced contexts. Despite these advantages, the study highlights pressing concerns related to data privacy, algorithmic bias, and unequal access to technological infrastructure. Teacher readiness also emerges as a crucial factor, as insufficient training can hinder effective implementation. The results suggest that AI must function as a supportive tool rather than a replacement for teachers. The hybrid models produce the most promising outcomes. It is recommended that policymakers and educators adopt AI in ways that ensure ethical safeguards, professional training, and equitable access while fostering collaboration between technology and human instruction. This balanced integration can maximize the transformative potential of AI while preserving the human dimensions of empathy, culture, and critical thinking that remain central to language education.

Keywords
Artificial Intelligence, Education, Teachers, Learners, Language, Policymakers

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Introduction

Language acquisition has long been recognized as one of the central pillars of education, serving not merely as a means of communication. However, it also plays a crucial driver role of cognitive development, social participation, and cultural integration (Alhusaiyan, 2025). Language is the most determinant skill to be attained and critically deployed by the learners as this is one of the foundations to an interaction with knowledge systems, meaning making, identity assertion, and entry in communities of practice that constitutes the human experience. Throughout the history of education, schools have devised numerous pedagogical techniques that help learners to acquire a language, ranging across the historical spectrum of more formal grammar-translation methods to the more contemporary and interactive means (Al Aqlobi et al., 2024). All these practices have worked to bring insight into the way learners can advance their basic understanding of an issue to a deeper fluency but there is constant challenge especially when such mechanisms are employed in complex and heterogeneous education practices. Traditional ones in teaching the language have their limitations which are structural. Teacher to student ratios that are large in most regions of the world imply that a teacher cannot give enough one-on-one attention and, as a result, the students have few chances to practice and master their skills. We further have the issue that there is a limited amount of time in which instruction can be provided, language learning is a process that requires frequent exposure, repetition, and reinforcement (Divekar* et al., 2022). All these factors about the background of the learners, such as varying prior knowledge, and cultural contexts, and learning styles imply that no one pedagogical model would be able to serve the needs of every student adequately in an effective way. Moreover, societal and economic inequality of access to resources and qualified teachers has produced an unequal footing to learning secondary or foreign languages, especially where there is a lack of resources in under-funded areas where bilingualism/multilingualism might be seen as an important tool to support job market opportunities and social mobility (Kovalenko & Baranivska, 2024). The importance of language learning has increased at the present globalization stage. Cross-linguistic communication skills are progressively recognized as a valuable building block to engagement in the global economy, global politics and intercultural interaction. Examples are that English has established itself as a lingua franca and that the knowledge of regional and national languages remains equally essential in the preservation of culture and the communication process in a multilingual society. The increasing value of people who can move through a variety of linguistic and cultural environments has produced a pressing requirement that new pedagogical approaches be identified that can get around to reinforcing traditional teaching settings and give learners dynamic, individualized and accessible channels to language mastering. In this changing environment, artificial intelligence (AI) has become a revolutionary phenomenon and changed the way education practice can be (Wei, 2023). The emergence of AI into the sphere of learning languages is a much more fundamental issue than the implementation of new technologies, focusing on the paradigm change of mediating knowledge, providing feedback, and organizing a learning environment. AI systems can also examine huge quantities of data produced by the learners, finding trends in mistakes, successes, and improvement that human instructors could be hard-pressed to track. It is based on these insights that

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learning can be created to be adaptive with the learning content dynamically changed depending on the profile of the specific learner (Yiling et al., 2025). Contrary to stagnated textbooks or repetitive delivery, AI-based platforms can be iteratively improved and expanded as the learner progresses, which allows keeping the difficulties at the right level to keep the learner motivated and contributing to quantitative success.

AI integration in language learning brings several unique benefits. Among the most popular uses of AI is its capacity to provide instantaneous and specific feedback. Under normal classroom conditions, students would be forced to wait months, weeks or days to get their written copies graded or orally corrected, but with the use of AI-driven, natural language processing, grammatical errors can be spotted, new vocabulary can be recommended, and pronunciation can be evaluated in real-time (Fitrianto et al., 2024). This responsiveness makes learning faster because learners can be able to internalize corrections better when it is real-time and context specific. This makes the learning process more interactive, dialogic and fills the gap between theory and practice. Democratization of education is another important feature of language learning that can be achieved by means of AI. In areas where resources are few and there are limited qualified language instructors available; AI tools give learners a chance to practice and feedback that otherwise may not exist (AbuSahyon et al., 2023). Conversational chatbots, mobile applications and intelligent tutoring systems can be used on relatively inexpensive devices allowing educational opportunities to be extended out of the classroom and into households and communities. The support of this potential of inclusiveness is almost at hand with global education aspirations, especially the ones that put excessive emphasis on equity and life-long learning as outlined through the United Nations Sustainable Development Goals (SDGs). Cultural implication of AI in language acquisition is also significant. Language is a tool of communication besides it bears culture, identity and world view. Such technologies are involved in teaching vocabulary and grammar, as well as, when AI technologies are applied in language learning, mediate interactions, which, potentially, exposes learners to the cultural contexts inherent in the target language (AbuSahyon et al., 2023; Schmidt & Strasser, 2022). Examples being Conversational AI that, as they are culturally authentic, train learners to deal with situations in the real world, which not only increases linguistic competence but also intercultural competence. Such dual role can make AI an ideal partner in the development of global citizens that modern societies are beginning to require. Although it has great potential, integration of AI mode in language acquisition is also a topic of major issues and concerns. The vulnerabilities of data-driven systems also imply moral issues connected to privacy, surveillance, and proprietorship of the data created by learners. Unless properly controlled, the AI systems can reify linguistic or cultural prejudices and biases inherent within the data they train on, resulting in biased or unfair training experiences. Pedagogical issues are also related to the excessive use of technology because the language learning process is not only about the technology but the human process and human needs, empathy, creativity, and ability to negotiate the meaning characteristics that AI cannot quite handle (Yuen & Schlote, 2024). On the one hand, the increase in AI brings teachers opportunities and anxieties as much as it does to doctors and lawyers: automation of tasks can take some of the load off of teachers and can help make diagnostic insights, but the development of new professional development will be necessary to make sure that this process helps

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rather than hurts teachers day-to-day experience. This two-fold promise-caution can be traced in the history of research into AI and language learning. On the one hand, research has shown impressive learning engagement, motivation, and other results in instances of using an AI-driven platform. Conversely, scientists avoid techno-centric perspectives which do not focus on socio-cultural, and pedagogical aspects of learning. This therefore means that the present-day calls desperately for critical thought on ways in how AI can be incorporated strategically and ethically into learning environments to supplement as opposed to replacing human aspects of instruction and education.

Materials Method

This study is designed as a qualitative synthesis of existing scholarships and practices on the integration of artificial intelligence in language acquisition within educational settings. Instead of generating primary data, the research relies on a systematic review of peer-reviewed literature, institutional reports, and case studies to develop a broad and critical understanding of how AI technologies are currently being implemented and evaluated. The approach was chosen to capture the rapidly expanding body of work in this area, to identify key trends and patterns, and to highlight both the pedagogical opportunities and the challenges that arise when AI is introduced into the process of language learning. This was initiated by the meticulous definition of scope and objectives. The research was particularly limited to articles where artificial intelligent instruments were used in the learning of the first, second or foreign language based on formal or informal learning. The inclusivity covered primary, secondary and tertiary education, internet-based and self-guided learning and encompassed all application levels in learning. The theme of education made this review unique compared to other reviews that may involve AI in general language technologies or professional translation since the plan here is to know the direct pedagogical effects. The process of source identification was based on systematic searching within some of the largest educational databases, such as Scopus, Web of Science, IEEE Xplore, SpringerLink, ERIC, and Google Scholar. The search plan was conceived to be both broad and specific, and the relevant keywords and search terms included phrases like artificial intelligence in education, AI in language learning, natural language processing and language learning, intelligent tutoring and more. The search was narrowed using Boolean operators and since relevant papers had been found, other sources were identified using references made to them in the relevant papers. The period of inclusion was defined as 2015 to 2025 to include not only the fundament in the last 10 years, but also the newest advancements in applied artificial intelligence technologies.

The first search resulted in finding more than two hundred possible sources. To maintain academic rigor, inclusion and exclusion criteria were used when conducting the screening process. The inclusion criteria entailed studies which focused on AI tools directly in connection to language acquisition and presented data on educational efficacy/learner/pedagogical outcomes. The exclusion criteria were not used to incorporate materials since they were merely technical without pedagogical analysis or materials that were commercial advertising and not empirical and repetitive publications. Upon title, abstract, and full text screening, seventy-eight studies were maintained in the thorough study analysis. It is composed of journal articles, proceedings, doctrinal dissertations and policy papers, and, therefore, covers theoretically as well as practical opinion. Thematic

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content type of analysis was used in analyzing the studies selected. All trials were systematically evaluated in terms of the kind of AI technology applied, application context in which it was applied, the language skill to be acquired, the population of learners, and the reported outcome. These data points that were extracted were coded to emergent themes. As an illustration, they grouped studies by the themes of personalization of learning, delivery of immediate feedback, engagement, motivation, access and inclusion, as well as challenges of the ethical issues and the preparedness of teachers. Such coding enabled identification of some recurring patterns and still captured some variability of contexts in which AI has been used. Interpretative reliability was improved by means of iterative comparison between the coded themes and the existing meta-analyses and review articles in AI in education domains. In the areas of overlaps, this work aimed at applying existing evidence or furthering sound results; in areas of conflicts the analysis of the way forward questioned potential causes like methodological differences, sample, or technological levels of maturity. Such a triangulation process has helped make sure that the findings synthesized do not merely incorporate the reviewed body of studies but also the scholarly discourse in the field.

Even though this research is qualitative in nature, emphasis was placed on the rigor and transparent nature of methodology. The research study was replicable as each of the stages of the research process (scope definition and database search, screening, coding, and synthesis) was documented. The preference of qualitative synthesis was not accidental because the aim was neither to quantify the effect sizes or to present a set of statistical generalizations but to discuss, situate, and combine a variety of results into a meaningful story. It will be especially well-suited to new areas such as AI in language education, where the tools (or learners and pedagogical possibilities) are diverse and cannot be easily quantified but interpretive synthesis can produce important insights. Overall, the techniques and resources used in the present study are built on systematic identification of literature in combination with the thematic analysis to deliver an in-depth and critical picture of using artificial intelligence in language learning. The study provides a trustworthy source of knowledge about the possibilities and the issues of using AI in this area due to using various sources but still of relevance, the rigorous screening conditions, and due to having validity by cross-checking prior reviews. The method also enables flexibility to add a wide range of topics that is necessary in a topic as globally concerned and pedagogically heterogeneous as language learning.

Results and Discussion

Thematic analysis method applied to the chosen literature showed that there are some recurring results concerning the situation with artificial intelligence in the process of language acquisition. Throughout the seventy-eight reviewed studies, AI applications revealed a true potential in increasing the levels of engagement among learners, personalization's in delivering instructions, offering immediate feedback as well as in creating more language learning opportunities (Jegede, 2024; Obidovna, 2024). Yet the issues of ethics and inclusivity as well as teacher preparedness were also pronounced, showing that although AI creates the transformational potential, its use in educational settings is still to be approached with a certain level of strategy. Among the most consistent observations was that AI could individualize the process of language learning. With the use of machine learning algorithms, adaptive learning platforms could adapt their instructional

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content to the levels of aptitude, speed of the learner as well as preferred modality. This customization avoided the typical issue of indifference related to over- or too-easy material. Perpetuating the flow of the optimal level of challenges, AI systems kept the learners motivated and promoted further development. A different major finding was the worth of immediate and situation-specific feedback (Kot & Nykyporets, 2024; Nykyporets et al., 2024). The applications of AI through systems that used speech recognition and natural language processing offered corrections on vocabulary, grammar and pronunciation to learners in real time. These feedback cycles were more effective when compared to delayed teacher evaluation since learners could make corrections to their practice instantaneously. This attribute was of great importance especially to the oral language learning in which immediate pronunciation feedback minimized error fossilization (Kuddus, 2022). The AI systems have also increased learner engagement because of interactive nature of the systems. According to the studies, gamification features, i.e., points, levels, and interactive difficulties, motivated the learners to keep up the practice. Chatbots and conversational agents reproduced natural communication situations, causing less anxiety related to peer or teacher criticism and providing learners with the opportunity to experience the practice of communication in a safe and low-risk situation. The feature combination developed a measurable positive effect on vocabulary retention, grammatical accuracy rates, and oral fluency.

Despite these benefits, the analysis also highlighted several challenges. Concerns regarding data privacy and security were significant, as many AI tools collected and processed large amounts of learner data, including voice recordings and written texts (Al Aqlobi et al., 2024; Alhusaiyan, 2025). Another common problem was algorithmic bias, and a part of systems had a limited application range with learners of various linguistic and cultural backgrounds. The category of educator readiness proved to be a hindrance because most educators were untrained in using AI tools in classroom practice. Lack of proper development allowed the potential of AI to go unrealized, and teachers in certain instances even demonstrated some fear of being automated. It also supported the findings that placed emphasis on the complementary, but not stimulative role of AI in language acquisition. Although AI-based tools offered a strong practice and feedback loop, they could not recreate the human aspects of instruction including empathy, cultural mediation, and encouragement (Divekar et al., 2022; Kovalenko & Baranivska, 2024). The most promising results were evidenced in hybrid models in which pedagogy under teacher control was coupled with AI-driven support. Such models enabled educators to concentrate on teaching in higher order events and permitted the AI systems to concentrate on lower order events, like vocabulary drilling, or grammar correction. The results synthesis is summed up in the following tables. Tables 1 and 2 show the key advantages and limitations of AI in language acquisition according to identified in the reviewed studies and challenges, respectively that need to be addressed to make the process successful.

Table 1. Benefits of AI in Language Acquisition

Parameter	Brief Detail
Personalization	AI adapts content to individual learner proficiency, pace, and preferences.

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Immediate Feedback	Real-time corrections in grammar, vocabulary, and pronunciation
Learner Engagement	Gamification and interactive chatbots increase motivation
Accessibility	Expands opportunities for learners in under-resourced contexts
Continuous Practice	AI enables independent learning beyond classroom hours

Table 2. Challenges and Limitations of AI in Language Acquisition

Key Challenge	Detail(s)	Education Implications
Data Privacy	Collection and storage of learner texts and speech raise ethical concerns	Requires stricter policies and data protection laws
Algorithmic Bias	Limited representation of diverse accents and cultures in training data	May disadvantage non-standard language learners
Teacher Readiness	Lack of professional training limits effective AI integration	Professional development programs are necessary
Over-Reliance on AI	Risk of neglecting human interaction and cultural context	Hybrid approaches recommended
Access Inequality	Technological infrastructure is not equally available across contexts	Can widen digital divide if unaddressed

Taken together, the results of this analysis demonstrate that AI plays a highly supportive role in enhancing language acquisition but must be applied thoughtfully. The strongest outcomes emerge when AI tools are used to augment rather than replace traditional teaching, thereby creating a balanced ecosystem where technology provides efficiency and adaptability while teachers provide cultural insight, empathy, and holistic guidance(Kovalenko & Baranivska, 2024). The challenges identified highlight the need for deliberate policy frameworks, teacher training, and ethical considerations to ensure that AI integration aligns with educational equity and pedagogical soundness.

Conclusion and Recommendations

The application of artificial intelligence in language learning has proved to have the potential of being a revolutionary method in language learning in its ability to be personalized, give prompt feedback, and enable the learner to be more engaged as applied in various learning environments. The results of this investigation demonstrate that an AI-driven one has the potential of enhancing vocabulary

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retention rates, grammar, and oral fluency drastically by creating content that fits the needs of learners and providing a never-ending possibility to practice. Simultaneously, the findings indicate that AI should not be pictured as a substitute for human guidance but as an addition that helps a teacher because it automates the routine activities and relieves them of the need to fulfill lower-order pedagogical functions. The issues of data privacy, algorithmic bias, and equity of access are among the most serious ethical concerns which should be considered to both provide an effective and inclusive AI in language education.

It is also noteworthy that considering these findings, it is advisable that educational institutions abandon the one-way framework where much emphasis has been given to pure application of AI tools vis-a-vis the traditional teaching model into a hybrid framework where a selective approach of integrating AI tools into ongoing school curriculums has been advocated. Locking down data on learners Policymakers need to set up clear guidelines to protect information on learners and mitigate algorithm bias, as they invest in bridging technological disparities, especially in under-resourced areas. The professional development programs implemented by teachers are necessary so that they can develop the capacity needed to successfully incorporate AI without worrying about them being ousted by technological innovations. Taking a middle ground by focusing on the benefits of AI in collaboration with humans, education systems will be able to fully realize the value of artificial intelligence in education, yet will retain cultural, emotional, and ethical aspects of language learning that only human instructors can bring.

References

Abu Sahyon, A. S. E., Alzyoud, A., Alshorman, O., & Al-Absi, B. (2023). AI-driven technology and chatbots as tools for enhancing English language learning in the context of second language acquisition: A review study. *International Journal of Membrane Science and Technology*, *10*(1), 1209–1223.

Al Aqlobi, O., Alduais, A., Alasmari, M., & Qasem, F. (2024). Artificial Intelligence in Language Acquisition: A Balancing Act of Potential and Challenges. *Forum for Linguistic Studies*, *6*(6), 1103–1122.

Alhusaiyan, E. (2025). A systematic review of current trends in artificial intelligence in foreign language learning. *Saudi Journal of Language Studies*, *5*(1), 1–16.

Divekar, R. R., Drozdal, J., Chabot, S., Zhou, Y., Su, H., Chen, Y., Zhu, H., Hendler, J. A., & Braasch, J. (2022). Foreign language acquisition via artificial intelligence and extended reality: design and evaluation. *Computer Assisted Language Learning*, *35*(9), 2332–2360.

Fitrianto, I., Setyawan, C. E., & Saleh, M. (2024). Utilizing Artificial Intelligence for Personalized Arabic Language Learning Plans. *International Journal of Post Axial: Futuristic Teaching and Learning*, 30–40.

Jegede, O. O. (2024). Artificial intelligence and English language learning: Exploring the roles of AI-driven tools in personalizing learning and providing instant feedback. *Universal Library of Languages and Literatures*, *1*(2).

Kot, S. O., & Nykyporets, S. S. (2024). Utilization of artificial intelligence in enhancing English language proficiency in tertiary education. *Science and Education in the Third Millennium: Information Technology, Education, Law, Psychology, Social Sphere, Management. Chap. 10: 250-274.*

ISSN Online: 3007-3154
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Kovalenko, I., & Baranivska, N. (2024). Integrating Artificial Intelligence in English Language Teaching: Exploring the potential and challenges of AI tools in enhancing language learning outcomes and personalized education.

Kuddus, K. (2022). Artificial intelligence in language learning: Practices and prospects. *Advanced Analytics and Deep Learning Models*, 1–17.

Nykyporets, S. S., Pradivlyanny, M. H., Boiko, Y. V, Chopliak, V. V, & Kukharchuk, H. V. (2024). Innovative techniques in vocabulary acquisition for foreign language learning: the impact of artificial intelligence.

Obidovna, D. Z. (2024). Advancing pedagogical approaches: leveraging artificial intelligence technologies to enhance the integration of english and latin language instructional methods. *Central Asian Journal of Multidisciplinary Research and Management Studies*, *1*(2), 19–23.

Schmidt, T., & Strasser, T. (2022). Artificial intelligence in foreign language learning and teaching: a CALL for intelligent practice. *Anglistik: International Journal of English Studies*, *33*(1), 165–184.

Wei, L. (2023). Artificial intelligence in language instruction: impact on English learning achievement, L2 motivation, and self-regulated learning. *Frontiers in Psychology*, *14*, 1261955.

Yiling, J., Omar, M., & Kamaruzaman, F. M. (2025). Exploring the AI-Enhanced Project-Based Learning for English Language Acquisition: A Systematic Review of the Key Elements and Emerging Technology Trends. *International Journal of Learning, Teaching and Educational Research*, *24*(2), 636–652.

Yuen, C. L., & Schlote, N. (2024). Learner experiences of mobile apps and artificial Intelligence to support additional language learning in education. *Journal of Educational Technology Systems*, *52*(4), 507–525.