

THE USE OF ARTIFICIAL INTELLIGENCE IN LANGUAGE LEARNING: OPPORTUNITIES,
EVIDENCE AND PEDAGOGICAL STRATEGIES

Maftuna Inomjanova Abduxamid qizi

International School of Finance and Technology (ISFT), English Language Teacher

inomjanovamaftuna64@gmail.com

Аннотация: Мақолада сунъий интеллектдан тил ўрганиш жараёнида фойдаланишнинг замонавий имкониятлари, самарадорлиги ва чекловлари таҳлил қилинади. Тадқиқотда сўнгги тизимли шарҳлар ва мета-таҳлиллار қиёсий ўрганилиб, AI воситаларининг ёзиш, гапириш, луғат, автоматик фикр-мулоҳаза ва индивидуаллаштирилган машқлардаги роли ёритилади. Таҳлил натижалари AI воситалари ўқув амалиёти ва тезкор фикр-мулоҳазани кучайтириши мумкинлигини, бироқ ўқитувчи назорати, маълумотлар махфийлиги ва академик ҳалоллик муҳимлигини кўрсатади.

Аннотация: В статье анализируются современные возможности, эффективность и ограничения использования искусственного интеллекта в изучении языков. На основе сравнительного анализа систематических обзоров и метаанализов рассматривается роль ИИ в письме, говорении, работе с лексикой, автоматизированной обратной связи и персонализированной практике. Показано, что ИИ может расширять возможности практики и обратной связи, однако требует педагогического контроля, защиты данных и соблюдения академической добросовестности.

Abstract: This article examines the opportunities, evidence and limitations associated with the use of artificial intelligence in language learning. Recent systematic reviews and meta-analytic evidence are synthesized to assess AI-supported writing, speaking, vocabulary practice, automated feedback and personalized learning. The analysis indicates that AI can expand opportunities for practice and feedback, while its educational value depends on task design, teacher mediation, learner verification, data protection and academic integrity.

Keywords: artificial intelligence, language learning, EFL, generative AI, chatbots, automated feedback, personalized learning, AI literacy, English language teaching

INTRODUCTION

Artificial intelligence has become an increasingly visible component of language education. Earlier intelligent computer-assisted language learning systems already used automation, tutoring and personalization, but the rapid spread of generative AI has substantially expanded the range of language-learning activities that can be supported by machines. Current tools can generate dialogues, explain grammar, suggest revisions, simulate communicative situations and provide immediate responses to learner prompts.

The relevance of the topic is strengthened by the rapid growth of empirical research. A 2025 systematic review of 144 peer-reviewed empirical studies on generative AI in language learning and teaching reported that 86.7% of the studies were conducted in higher education and 86.1% focused on English as a foreign language; writing was the main skill focus in 42.4% of studies, while mixed-methods designs represented 38.9% [1]. A separate 2026 systematic review examined 708 publications from 2019–2024 and retained 103 studies, finding that AI-supported tools were particularly prominent in integrated, writing and speaking skills [2].

The object of this study is AI-supported language learning, while the subject is the pedagogical use of AI tools for developing language skills. The aim is to synthesize recent evidence, identify major applications, analyze measurable findings and propose a human-centred instructional framework. The objectives are to classify AI applications, compare reported outcomes, examine risks and formulate practical recommendations for English teachers.

Literature Review

Research on AI and language education has developed from intelligent tutoring and conversational agents toward large language models and generative systems. Earlier work identified automatic feedback, intelligent tutoring and personalization as central affordances of intelligent computer-assisted language learning [3]. Research on AI-driven chatbots similarly indicates that conversational systems can create additional opportunities for practice, particularly in speaking and writing, while limitations remain in emotional engagement and complex contextual interaction [4].

The post-2022 literature has expanded rapidly. A systematic review of the first year of ChatGPT research in language education identified 36 eligible publications and reported strong interest in self-directed learning, content generation and teacher workflows, while also identifying gaps in longitudinal research and feedback-quality assessment [5]. More recently, a review of 144 empirical generative-AI studies found that the field is moving from exploratory work toward more systematic investigation, although higher education and EFL contexts still dominate [1].

The ethical dimension is equally important. UNESCO recommends a human-centred approach to generative AI in education, with attention to privacy, equity, age appropriateness, validation and institutional preparedness [6]. The guidance emphasizes that AI should not be treated as a substitute for human capacity or as a universal solution to educational problems [6].

Research Methodology

The study uses comparative systematic-literature analysis, descriptive statistical synthesis and pedagogical interpretation. Evidence is drawn from recent peer-reviewed systematic reviews and meta-analyses and from UNESCO guidance. The selected sources are compared by sample scope, educational level, target language, language skill, methodological orientation and reported outcomes.

The numerical values shown in Figures 1–3 are taken from the cited reviews and meta-analysis rather than invented survey data. The article therefore distinguishes reported evidence from the author’s pedagogical interpretation. Where a review reports the number of included studies or an effect size, that value is reproduced as a secondary statistic and is not presented as an original experiment.

Analysis and Results

The evidence base shows a clear concentration of research in higher education and EFL. This concentration is important because findings from university-level learners cannot automatically be generalized to school pupils, young learners or all language-learning contexts [1], [2].

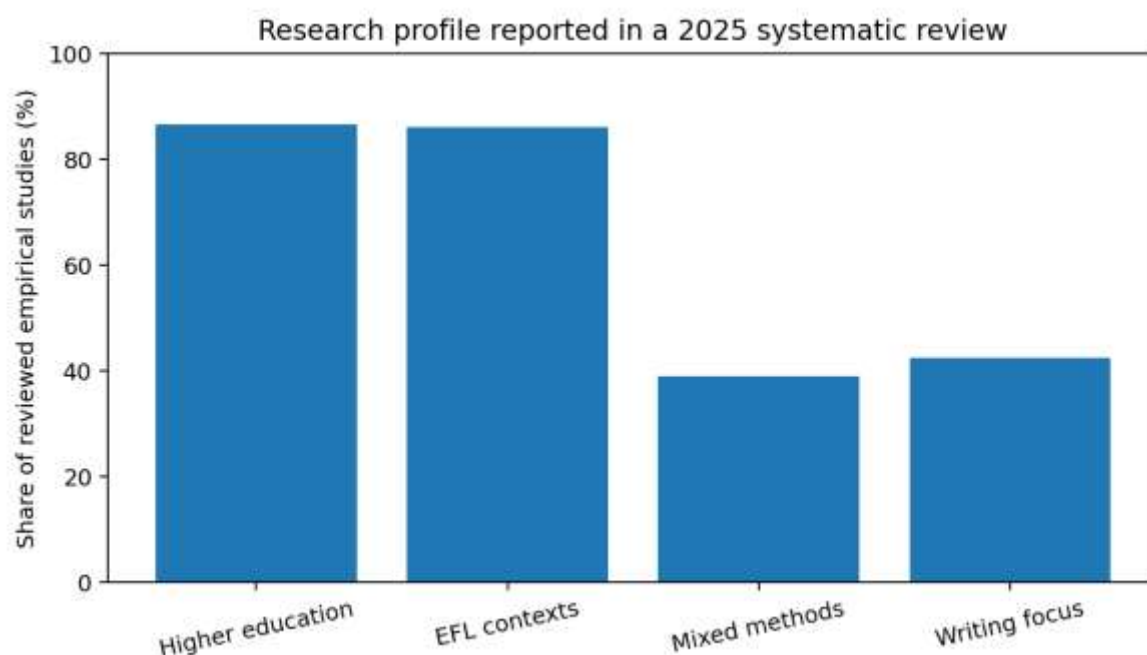


Figure 1. Research profile reported in the 2025 systematic review of empirical generative-AI research in language learning and teaching.

The distribution highlights an important research imbalance. Higher education and EFL studies account for most of the evidence, while other age groups and languages receive less attention. Writing is also disproportionately represented. This suggests that future research should broaden the evidence base toward listening, reading, pragmatic competence, younger learners and multilingual contexts.

Indicator	Reported value	Interpretation
Empirical GenAI studies reviewed (2023–2024)	144	Rapidly expanding evidence base [1]
Higher education	86.7%	Strong concentration in university settings [1]
EFL contexts	86.1%	English dominates the empirical literature [1]
Mixed-methods designs	38.9%	Substantial use of combined quantitative/qualitative designs [1]

Writing as main focus	42.4%	Writing receives more attention than several other skills [1]
-----------------------	-------	---

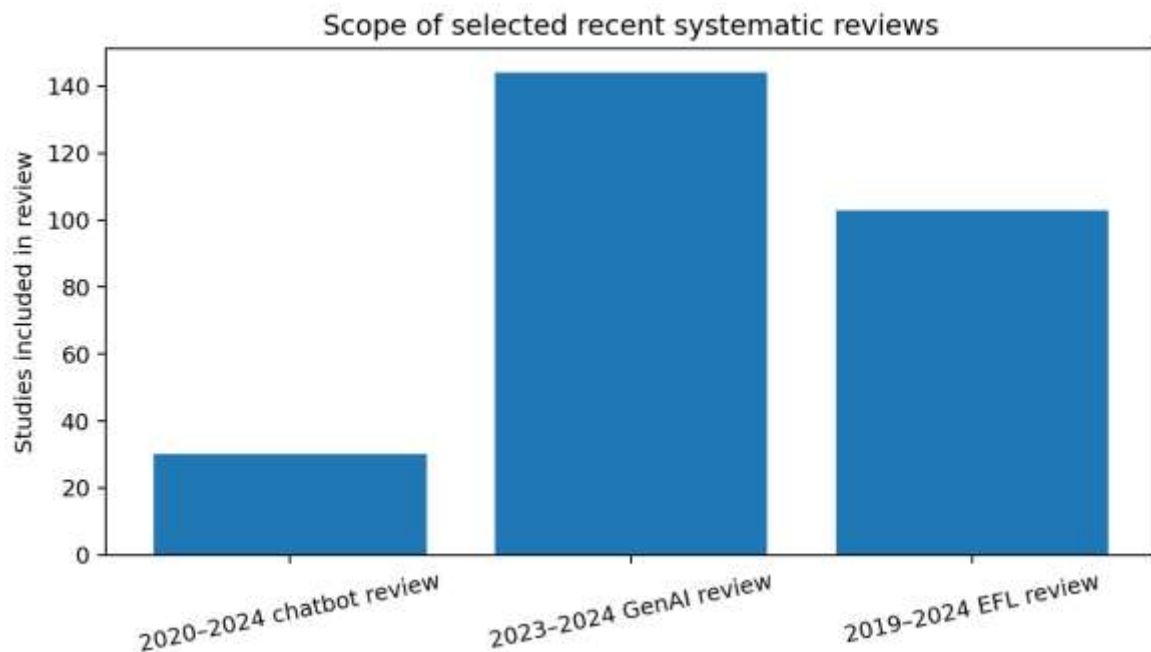


Figure 2. Number of studies included in three selected recent systematic reviews.

Figure 2 compares the scope of three reviews and should not be interpreted as a direct measure of AI effectiveness. The reviews use different inclusion criteria and time windows. Their value lies in demonstrating the rapid expansion and diversification of research. The 2026 EFL review examined 708 records published from 2019 to 2024 and retained 103 studies after screening [2], while the 2025 chatbot review synthesized 30 empirical studies published between 2020 and 2024 [4].

Table 2. Main AI applications in language learning

AI application	Primary skill	Potential instructional contribution	Key limitation
Conversational chatbots	Speaking	Repeated low-stakes interaction and role-play	Limited human-like affect and contextual depth [4]
Generative writing assistance	Writing	Drafting, revision and feedback cycles	Risk of over-reliance and loss of learner voice
Automated feedback	Writing/grammar	Fast formative feedback and revision support	Possible hallucinations or misclassification [7]
Adaptive practice	Vocabulary/grammar	Individualized task selection	Quality depends on system design and learner data
Pronunciation/voice tools	Speaking	Immediate practice and feedback	Recognition quality can vary by accent and context
Translation/explanation	Reading/writing	Rapid access to meaning and examples	May reduce productive processing if used passively

Recent evidence also indicates measurable effects of AI-assisted feedback. A 2026 three-level meta-analysis synthesizing studies involving 11,875 students reported a modest positive overall effect on educational outcomes (Cohen's $d = 0.271$), with a larger effect on emotional engagement ($d = 0.628$). The authors conclude that AI-assisted feedback works best as a supplementary tool requiring thoughtful pedagogical integration [7].

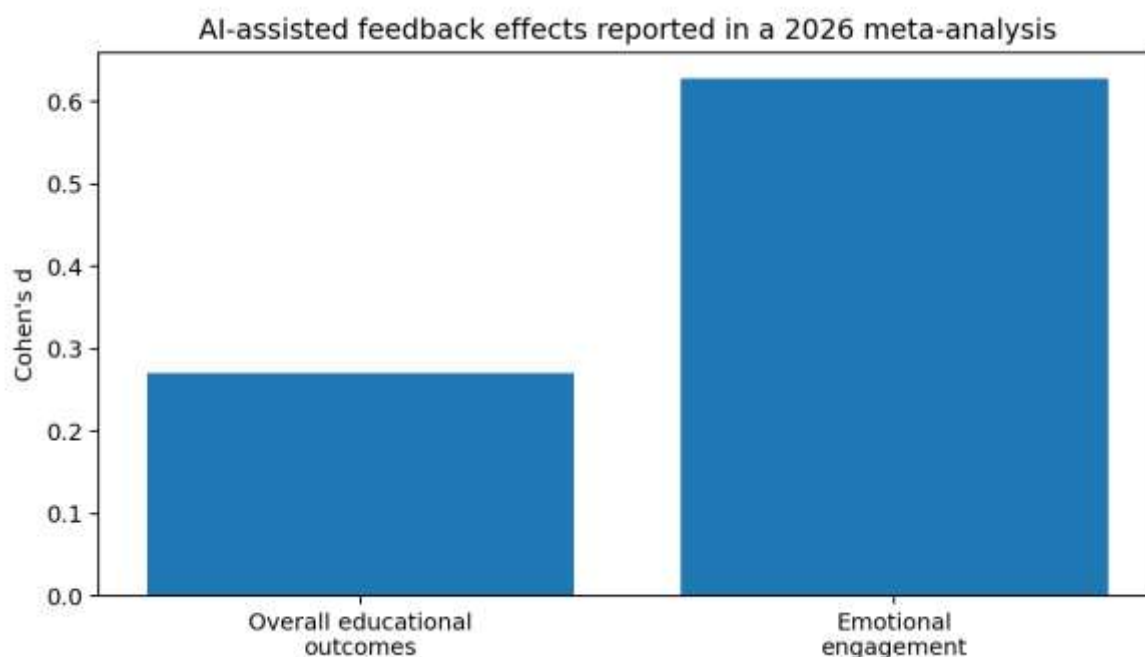


Figure 3. Cohen's d values reported in a 2026 meta-analysis of AI-assisted feedback in L2 writing.

AI and Individual Language Skills

Writing. Writing is the most frequently studied language skill in recent generative-AI research [1]. AI can help learners brainstorm, receive feedback, compare revisions and identify possible grammar or coherence problems. However, the teacher remains important for judging whether a suggestion is appropriate, whether an argument is original and whether the final text represents the learner's own competence.

Speaking. Chatbots can provide additional conversational practice and may reduce the pressure associated with speaking to a human partner. A 2025 systematic review of 30 empirical chatbot studies reported improvements particularly in speaking and writing, while noting limitations in emotional engagement and nuanced communication [4].

Vocabulary and grammar. AI can generate contextual examples, quizzes and contrastive explanations. Adaptive systems may also tailor practice to learner performance. The pedagogical challenge is to ensure that learners actively retrieve and use language rather than merely recognize AI-generated answers.

Reading and listening. AI can simplify texts, generate comprehension questions and create supplementary explanations. However, the research base is less developed than for writing and speaking. The 2026 EFL review specifically identifies uneven attention across language skills and calls for broader investigation [2].

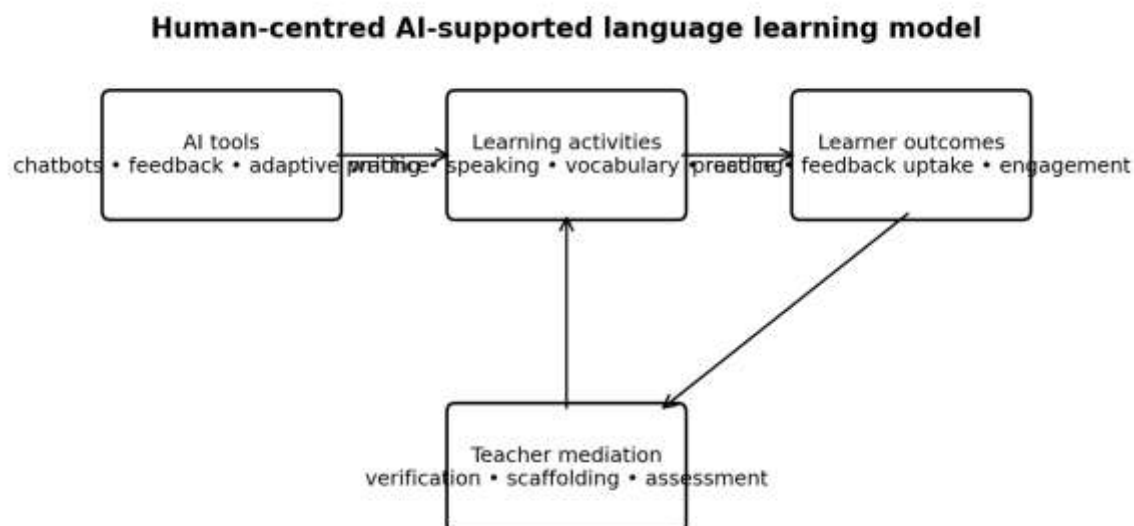


Figure 4. Proposed human-centred model linking AI tools, learning activities, learner outcomes and teacher mediation.

The proposed model places teacher mediation between technological capability and educational outcome. AI provides practice, feedback and content-generation functions; learners remain responsible for interpreting, verifying and applying the output; teachers design tasks, monitor progress and evaluate learning. This structure is consistent with UNESCO's human-centred guidance [6].

Table 3. Advantages and risks of AI-supported language learning

Dimension	Potential advantage	Potential risk	Recommended response
Personalization	More individualized practice	Dependence on automated suggestions	Use AI for practice, not sole instruction
Feedback	Rapid formative feedback	Incorrect or overconfident feedback	Require verification and teacher review [7]
Speaking	More opportunities for rehearsal	Limited emotional/contextual depth	Combine AI practice with human interaction [4]
Writing	Fast revision support	Reduced authorial voice	Require drafts, reflection and process evidence
Accessibility	Additional explanations and language support	Digital inequality	Provide equivalent non-AI alternatives
Academic integrity	Can support learning workflows	Undisclosed AI-generated work	Set transparent rules and attribution procedures
Privacy	Convenient personalization	Collection/exposure of learner data	Follow institutional privacy requirements [6]

Discussion

The evidence does not support a simple conclusion that AI automatically improves language learning. Instead, outcomes depend on how tools are embedded in instructional tasks. The strongest pedagogical use is generally complementary: AI expands opportunities for practice and feedback, while teachers provide contextual judgment, emotional support, curriculum alignment and assessment.

The literature also reveals an important methodological issue. Many studies are short-term and concentrated in higher education. The 2025 review identified higher education as 86.7% of the empirical sample [1], while the 2026 EFL review similarly reported a strong concentration in particular learner populations [2]. Consequently, long-term transfer, younger learners, diverse languages and real classroom implementation require further study.

AI literacy should therefore be treated as part of language learning itself. Learners need to know how to formulate useful prompts, compare AI output with reliable sources, identify uncertainty, protect personal information and disclose AI assistance when required. These practices move learners from passive consumers of generated text toward critical and responsible users of language technology.

Practical Classroom Strategy

Stage	Teacher activity	Learner activity	AI role
1. Prepare	Set language objective and success criteria	Predict, plan and activate prior knowledge	Optional idea generation
2. Practice	Design controlled task	Produce language independently	Conversation or targeted practice
3. Feedback	Teach verification criteria	Compare AI suggestions with own work	Generate formative suggestions
4. Revise	Monitor reasoning	Revise and justify changes	Support revision
5. Reflect	Assess learning process	Explain what was learned and what AI could/could not do	Object of critical reflection

Conclusion and Recommendations

Artificial intelligence is becoming an important component of contemporary language learning. Recent systematic reviews show a rapidly expanding research base, especially in higher education and EFL settings. Evidence indicates promising applications in writing, speaking, automated feedback, personalization and conversational practice. At the same time, the literature identifies important limitations involving feedback reliability, contextual depth, authorial voice, privacy, academic integrity and unequal access.

The following recommendations are proposed: (1) integrate AI into clearly defined language-learning objectives rather than using it as an unrestricted answer generator; (2) keep teachers in the loop for feedback verification and assessment; (3) teach learners AI literacy and source-checking skills; (4) require process evidence in writing assignments; (5) protect learner data and avoid unnecessary disclosure of personal information; (6) provide

non-AI alternatives when access is unequal; and (7) expand empirical research to younger learners, longer interventions, less-researched languages and listening, reading and pragmatic competence.

The main contribution of this article is a practical human-centred framework that connects AI affordances with language-learning tasks, learner outcomes and teacher mediation. AI is most educationally meaningful when it expands opportunities for purposeful practice while preserving learner agency and the professional role of the teacher.

REFERENCES:

Chen, X., et al. (2025). Two years of innovation: A systematic review of empirical generative AI research in language learning and teaching. *Computers and Education: Artificial Intelligence*, 9, 100445. [1]

Artificial Intelligence in English as a foreign language learning: A systematic review of technologies, tools, and their impacts. *Computers and Education: Artificial Intelligence*, 10, 100595 (2026). [2]

Instructional design and learning outcomes of intelligent computer assisted language learning: Systematic review in the field. *Computers and Education: Artificial Intelligence*, 4, 100117 (2023). [3]

Wiboolyasarin, W., Wiboolyasarin, K., Tiranant, P., Jinowat, N., & Boonyakitanont, P. (2025). AI-driven chatbots in second language education: A systematic review of their efficacy and pedagogical implications. *Ampersand*, 14, 100224. [4]

A systematic review of the first year of publications on ChatGPT and language education: Examining research on ChatGPT's use in language learning and teaching. *Computers and Education: Artificial Intelligence*, 7, 100266 (2024). [5]

Miao, F., & Holmes, W. (2023). *Guidance for Generative AI in Education and Research*. UNESCO. [6]

The effects of AI-assisted feedback on students' perceptions, emotions, and learning outcomes in L2 writing: A three-level meta-analysis. *System*, 139, 104018 (2026). [7]