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The Impact of Artificial Intelligence on the Foreign Language Learning Process

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Abstract

Artificial Intelligence (AI) has been rapidly evolving, especially the advent of Generative AI and large language models, which opens up new avenues in the field of foreign language learning. With the help of AI-powered tools, students can receive instant feedback, custom practice, interactive dialogue, vocabulary help, writing support, pronunciation practice, and access to language-learning resources outside of the classroom. Meanwhile, issues have surfaced about misinformation, overreliance on AI-generated answers, concern over plagiarism, reduced independent language output, and the undermining of critical thinking skills.

The aim of the present article is to explore the impact of artificial intelligence on foreign language learning in terms of language skills, self-regulated learning, motivation, and feedback. A comprehensive review of recent peer-reviewed articles, systematic reviews, meta-analyses, and relevant research, situated in the context of the Azerbaijani educational environment, was carried out. The research reviewed suggests that AI assistance can have a positive impact on speaking, writing, vocabulary development, feedback, and engagement within pedagogically relevant learning activities. The evidence is not the same across the four language skills, however, and positive perceptions by learners should not necessarily be taken as evidence of subsequent language learning.

The results also show that learner autonomy in an AI-supported environment is not just about having access to technology; it takes AI literacy, critical evaluation, self-regulation, and the learner's independent use of the target language to develop. The article concludes that artificial intelligence can serve only as an aid to learning and cannot replace learners' effort, human interaction, or the guidance of the teacher.

Keywords: *artificial intelligence; generative AI; foreign language learning; EFL; learner autonomy; language skills; feedback; motivation; AI literacy*

1. Introduction

AI is one of the most rapidly emerging technologies in the current education system. While pre-ChatGPT generative AI technologies have existed for some time, recent advances in generative AI have dramatically transformed the learner–technology interaction. The large

models can initiate an interaction with the learner, produce texts for them, explain vocabulary and grammar, simulate communicative situations, give feedback, and tailor responses to user instructions, whereas previous systems mostly offered preprogrammed answers or short adaptive feedback. The ability of generative AI to perform these functions is especially noteworthy for foreign language instruction. Long hours of exposure, repeated practice, feedback, opportunities for language production, and interaction are needed for language learning. The amount of individual feedback and speaking practice afforded to a learner in traditional classroom education is often limited by class size, lesson length, and teacher workload. With AI-powered systems, these opportunities may become possible outside the classroom.

The application of ChatGPT and other generative AI in language education has become a major topic of research in recent years, as evidenced by the considerable volume of literature on the subject. In a systematic review of initial studies on ChatGPT in language education, Li et al. (2024) found an increasing variety of applications in the context of language practice, writing assistance, writing feedback, materials development, and learner interaction. Law (2024) likewise found, in a scoping review, that generative AI was being applied in language learning and teaching through personalised support, text generation, feedback, and interactive learning activities.

Recent studies indicate that the field has progressed from exploratory discussion to a growing body of empirical evidence. After two years of empirical studies of generative AI in language learning, Li et al. (2025) highlighted the growth of the field as well as several ongoing areas of uncertainty in the literature. In addition, a meta-analysis of 41 experimental and quasi-experimental studies with 3,515 participants was conducted by Li, Wang, and Yang (2025). Their findings suggested that generative AI chatbots had a positive overall impact on L2 learning, and that the effects differed depending on context and instructional conditions.

AI's role in foreign language instruction is also gaining significance in the context of Azerbaijan. Ashrafova (2025) notes the advantages of implementing AI technology in the education of Azerbaijani students studying a foreign language, such as opportunities for interactive practice and personalised, individual learning. Mehdizade (2026) discusses the transformation of the traditional textbook-based method into technology-enabled and personalised language learning. Similarly, Ismayilli et al. (2026) highlight the growing significance of AI in present-day language education. But an educational perspective on AI is not solely about technological capability. While a system can produce an unlimited number of language exercises, this does not necessarily lead to effective language learning. Likewise, AI can generate grammatically correct sentences for a learner without fostering their ability to write independently. This is an important difference between being assisted by AI and being proficient in the language. Another key issue is learner autonomy. With generative AI, learners can ask questions, seek clarification, receive feedback, and practise without the teacher present. Such access could foster self-directed learning. However, students who routinely rely on AI to generate sentences, translate texts, complete tasks, or correct all linguistic issues might become not more autonomous but less. Mammadova (2026) therefore associates meaningful learner autonomy in the era of generative AI with AI literacy and the learner's critical evaluation of AI-generated information.

The present article examines the learner's perspective on AI support for foreign language learning (FLL). It emphasises five interrelated domains: language skills, feedback, motivation, learner autonomy, and self-regulated learning. It addresses the following questions: (1) How does the use of AI for learning affect key foreign language skills? (2) How can AI support feedback, personalisation, and learner engagement? (3) In what ways can AI promote

learner autonomy and self-regulated learning? (4) What might make an AI-supported activity fall short of genuine language learning? (5) What pedagogical principles can support the responsible use of, and effective learning from, AI?

2. Methods

2.1. Research design

A structured literature review design was used in this study. No original participants, questionnaires, experimental interventions, or fabricated datasets were involved. Rather, evidence from already-published work on artificial intelligence, generative AI, AI chatbots, and foreign or second language learning has been synthesised. A structured design was chosen because research on generative AI and language learning has grown rapidly and results are scattered across various subfields of language learning, such as writing, speaking, vocabulary, feedback, motivation, learner emotions, self-regulation, and learner autonomy.

2.2. Literature selection

Peer-reviewed research from the last six years (2020–2026) was prioritised. Special focus was given to systematic reviews, meta-analyses, and empirical studies on the use of generative AI in foreign or second language learning. The thematic search covered the following themes: artificial intelligence, language learning, generative AI, EFL, ChatGPT, second language learning, AI chatbot, speaking, AI feedback, writing, learner autonomy, self-regulated language learning, language-learning motivation, AI-assisted language learning, and learner emotions. Studies were given priority if they focused on language-learning outcomes, learner behaviours, feedback, motivation, self-regulation, or pedagogical implications. Relevant international research was included, as well as studies conducted in Azerbaijan, in order to relate the review to the local educational context.

2.3. Analytical procedure

A thematic analysis of the selected literature was carried out. The results were grouped into the following sections: speaking and communicative practice; writing and revision; reading and listening; vocabulary, grammar, and pronunciation; feedback and personalisation; motivation and learner emotions; learner autonomy and self-regulated learning; and limitations and potential risks. Not all positive findings were treated as equivalent, and the type of evidence reported was taken into account. Learner satisfaction, perceived usefulness, task improvement, and demonstrated language skills were treated as different kinds of outcomes.

3. Results

3.1. AI and speaking development

One area where AI language learning can be valuable is speaking. Time, class size, learner anxiety, and unequal participation limit traditional classroom speaking practice. AI chatbots can offer extended opportunities for simulated conversation to individual learners. In a systematic review of AI-powered chatbots for EFL speaking practice, Du and Daniel (2024) concluded that the use of chatbots can support speaking practice and interaction. Complementary evidence comes from Zou et al. (2023), who examined social-network-based AI interaction to support speaking practice, and from Wiboolyasarin et al. (2025), whose systematic review assessed the efficacy and pedagogical implications of AI chatbots in second-language education. Learners can hold repeated dialogues without the pressure of performing in front of classmates. AI systems can also create role-play scenarios such as booking a hotel, interviewing for a job, talking with a doctor, communicating at an airport, ordering in a

restaurant, or discussing coursework with an academic. These activities can be adjusted to the learner's level and repeated as needed. The absence of human judgement may reduce the learner's perceived risk of making mistakes, especially for those who experience speaking anxiety, which may increase willingness to practise. But a chatbot's communication cannot be entirely human. Real conversations involve hesitation, interruption, humour, cultural context, negotiation of meaning, misunderstanding, emotion, and unpredictable pragmatic choices. AI-based speaking should therefore be seen as a supplement to speaking with teachers, peers, and other speakers.

3.2. AI and writing development

One of the most discussed uses of generative AI in language learning is writing. AI can assist with the writing process in a number of ways, such as brainstorming ideas, generating possible arguments, outlining a draft, checking for grammatical mistakes, proposing word choices, enhancing coherence, offering feedback, clarifying edits, and aiding revision. Polakova and Ivenz (2024) found positive effects of ChatGPT feedback on EFL writing development, and Boudouaia et al. (2024) similarly report gains when ChatGPT-4 is used to support EFL writing. These results indicate that AI can be used as an additional feedback tool. But the effect of the technology on learning depends heavily on how it is used. There is a difference between asking the student to have AI write an essay and asking the student to write a paragraph while AI points out the grammatical issues — without rewriting the paragraph — and then explains each error and gives the student a chance to correct it. The first approach places the language-production process in the hands of AI. The second involves scaffolding with AI while keeping the learner engaged. This distinction matters for language-learning purposes. Successful completion of a task by means of AI may yield a polished AI-generated essay but not evidence of the learner's independent writing ability. A more robust pedagogical sequence would consist of learner planning, independent drafting, AI feedback, learner evaluation of the feedback, revision, teacher or peer feedback, and an independent follow-up task.

3.3. Vocabulary and grammar learning

AI tools can offer definitions that go beyond basic translation. A learner can request a definition, pronunciation, synonyms, antonyms, word families, collocations, register information, example sentences, common errors, or level-appropriate practice. This interactive capacity can be important for students who encounter unfamiliar words in their out-of-class reading. Grammar learning can be facilitated in a similar manner: learners can use AI to clarify a structure, provide comparisons, and generate examples. Ismayilli et al. (2026) emphasise the potential of AI technologies to support individualised language-learning experiences and immediate assistance. However, AI-provided grammar explanations do not necessarily constitute authoritative information. Language models sometimes identify acceptable structures as incorrect, oversimplify rules, or misrepresent stylistic preferences as grammatical rules. Students must therefore have enough language and AI awareness to question and confirm AI feedback.

3.4. Reading and listening

The amount of direct evidence for AI-supported reading and listening is smaller than that for writing and conversational chatbots. In reading, AI can help break down complex texts, provide definitions for unknown words, develop comprehension questions, summarise parts of a text, extract main points, and produce texts at a given CEFR level. Used judiciously, such functions can serve as helpful supports. But excessive summarisation poses an apparent contradiction: when a learner repeatedly asks AI to summarise a text instead of reading it, this

can decrease rather than improve reading practice. Zheng (2024) found that chatbot use affected foreign-language reading anxiety and reading performance among secondary-school learners, suggesting affective as well as cognitive dimensions to AI-supported reading. Listening applications include AI-generated audio, speech-based chatbots, transcript features, adjustable input, and pronunciation-recognition features. Ashrafova (2025) notes that AI-assisted language-practice systems can be promising for Azerbaijani learners. The pedagogical principle is the same as before: AI should provide exposure and practice without removing the necessity for learners to process language on their own.

3.5. Personalised feedback

One of the biggest practical benefits of AI is the ability to provide personalised feedback on the fly. A teacher is normally unable to give individual attention to each student in a classroom of twenty to thirty learners. AI systems can respond in real time, repeatedly. Learners can request various forms of support: "Don't correct my sentence; tell me where it is wrong," "Give me a clue, not the answer," or "Show me my sentence compared with a more natural one." Cognitively engaging feedback is possible with timely intervention. A systematic review and meta-analysis by Chen et al. (2025) likewise examined the design, implementation, and effectiveness of AI-enabled assessment in language learning. But feedback is not always accurate feedback. Teachers should help learners understand that AI responses must be analysed, not accepted unconditionally.

3.6. Motivation and learner emotions

AI interaction can affect the emotional dimensions of language learning. In their systematic review of emotional factors in AI-assisted ESL/EFL learning, Zhang and Liu (2025) found that the emotions involved included enjoyment, anxiety, motivation, engagement, boredom, and emotion regulation. According to their analysis, the emotional aspect of AI-powered language learning has emerged as a substantial field of study. Novelty, individualisation, immediate response, and interactive practice are potential ways in which AI can boost motivation. Students who are reluctant to ask a teacher the same question several times may prefer to ask an AI system for further explanation. Likewise, for some students, talking to a chatbot can alleviate stress, as errors are made in a relatively private setting. Still, motivational effects require care. Positive reactions to a new technology can fade with time, and using AI does not always lead to measurable language learning. Motivation should therefore be studied alongside actual learning behaviour and achievement.

3.7. Learner autonomy

Generative AI has opened a new space for independent learning. The learner no longer has to wait until the next lesson to ask about the difference between two words, to practise a speaking topic, to ask why a sentence is wrong, or to request an A2-level exercise. This constant availability can broaden opportunities for self-directed learning. Mammadova (2026) suggests that learner autonomy in the age of generative AI should be linked to AI literacy. An autonomous learner is not simply one who has access to an AI tool. If a learner sets a learning goal independently, asks for help when needed, checks that help, makes corrections, and then performs the task again without AI, autonomy is meaningful. A different type of learner, who automatically outsources writing, translation, word choice, and task selection to AI, may become increasingly dependent on the technology. Access to AI does not, in itself, imply learner autonomy. The right balance — AI use coupled with self-regulation, critical evaluation, and independent practice — yields greater potential for learner autonomy.

3.8. Self-regulated learning

According to Özturan's (2025) systematic review of self-regulated learning (SRL) and generative AI, this research area is still in its infancy and empirical evidence is limited. The review suggests, however, that there are significant links between generative AI and learners' SRL processes. Self-regulation can be supported by AI in various ways: learners can make study plans, identify perceived weaknesses, generate exercises, track progress, obtain explanations, and review errors. But all these advantages rely on the learner's own cognitive activity. When planning, decision-making, production, correction, and evaluation are all done by AI on behalf of the learner, self-regulation may actually be reduced.

3.9. Overall evidence of language-learning effectiveness

With the increasing number of empirical studies, researchers have been able to move beyond theoretical discussion. Li, Wang, and Yang (2025) carried out a meta-analysis of 41 experimental or quasi-experimental studies with 3,515 participants and concluded that generative AI chatbots have a moderate-to-large positive impact on L2 learning overall. This provides more solid proof than individual perception studies. The same meta-analysis, however, showed that moderating factors — such as aspects of the learning context and the intervention — affect outcomes. Rather than asking simply whether AI helps language learning, a more scientifically useful question is: when, for whom, in what tasks, and under what pedagogical guidance does AI enhance it?

4. Discussion

The evidence examined is promising for the potential of generative AI to assist foreign language learners. Its greatest practical benefits lie in its availability, personalisation, interactivity, feedback, and support for repeated practice. However, technology alone does not produce language acquisition. A learner can spend many hours working with AI yet produce little genuine language. On the other hand, a well-structured AI activity can foster noticing, retrieval, revision, and reflection in as little as ten minutes. Educational value therefore depends on the design of the tasks as well as on learner behaviour.

Three distinctions seem significant. First, it is important to differentiate between performance with AI and independent performance; a learner who uses AI to create a sophisticated text might not be able to produce comparable language without it. Second, it is necessary to differentiate between feedback quantity and feedback quality; while generative AI makes feedback easier to obtain, learners must still verify its correctness and relevance. Third, independent access should be separated from learner autonomy, since autonomy entails responsibility and self-regulation and is not merely study without a teacher.

These distinctions are especially important in higher education, where students increasingly use generative AI outside the institution. There is a need for more empirical research, including in SLA generally, where Han (2024) has called for systematic study of ChatGPT in and for second language acquisition. The analysis of existing local publications shows that the problems of language learning with the support of AI are gaining increasing attention among scholars, as indicated by Ashrafova (2025), Mammadova (2026), Mehdizade (2026), and Ismayilli et al. (2026). Longitudinal studies of actual language development with Azerbaijani university students would offer more concrete evidence. Pre-test/post-test designs, follow-up tests without the use of AI, speaking examinations, learner journals, and long-term observation should be included in future research.

5. Conclusion

AI is increasingly playing a large role in foreign language learning. Prior studies have shown that generative AI has the potential to enhance language practice, provide personalised feedback, engage learners in interactive dialogue, offer vocabulary and grammar assistance, help with writing revision, and facilitate self-directed learning.

Current evidence is strongest that positive outcomes occur when learners are active in the learning process. The present review, drawing on meta-analytic findings, suggests that generative AI chatbots are a promising tool for L2 education.

Positive effects cannot be taken for granted, however. Overreliance on AI can decrease the amount of independent language production, while producing high-quality language mostly through AI can create a false sense of command over the language.

For learner autonomy, independent access to an AI system is not enough. It demands self-regulation, critical thinking, AI literacy, language awareness, and the ability to work without technology. The learning model best suited to AI is not a model built for AI, but one that uses AI to support learning. Foreign language learning should therefore be built on meaningful communication, with the student's own work at its core and generative AI serving as scaffolding, practice partner, feedback tool, and personal assistant.

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