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The Role of Artificial Intelligence in Foreign Language Learning: A Comparative Analysis of Ai-Based Learning Support

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Abstract. *This study examines the role of artificial intelligence (AI) in foreign language learning, focusing on widely used AI-based tools such as ChatGPT, Duolingo, Grammarly, ELSA Speak, Google Translate, and Memrise. The primary objective of the research is to explore the contribution of these technologies to the development of learners' linguistic competencies, including reading, writing, speaking, and vocabulary acquisition, and to evaluate their pedagogical implications within language education contexts. The study employs a qualitative comparative and exploratory research design. Data were collected through document analysis and interaction with selected AI-based language learning tools using standardized language learning tasks. The outputs generated by each platform were systematically analyzed based on criteria such as accuracy, feedback quality, adaptability, and instructional value. The results reveal that AI-based tools enhance language learning by offering immediate feedback, individualized learning support, and expanded opportunities for autonomous practice. At the same time, the findings indicate that excessive dependence on AI technologies may reduce learners' cognitive engagement and limit opportunities for authentic communicative interaction. The study highlights that AI-based language learning tools should be considered as complementary resources in foreign language education. Their effective integration, alongside traditional instructional methods, can contribute to more efficient and personalized language learning outcomes.*

Keywords: *artificial intelligence, language learning, CHATGPT, personalized study programs, translation tools, academic results*

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Süni intellektin xarici dil öyrənməsində rolu: süni intellekt əsaslı öyrənmə dəstəyinin müqayisəli təhlili

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Xülasə. *Bu tədqiqat xarici dil öyrənilməsində süni intellektin (Sİ) rolunu araşdırır və ChatGPT, Duolingo, Grammarly, ELSA Speak, Google Translate və Memrise kimi geniş istifadə olunan süni intellekt əsaslı alətlərə xüsusi diqqət yetirir. Tədqiqatın əsas məqsədi bu texnologiyaların oxu, yazı,*

danışıq və söz ehtiyatının mənimsənilməsi də daxil olmaqla, öyrənənlərin dil kompetensiyalarının inkişafına verdiyi töhfəni araşdırmaq və onların dil tədrisi kontekstində pedaqoji əhəmiyyətini qiymətləndirməkdir. Tədqiqatda keyfiyyət yönümlü müqayisəli və kəşfiyyat xarakterli tədqiqat dizaynından istifadə edilmişdir. Məlumatlar sənədlərin təhlili və standartlaşdırılmış dil öyrənmə tapşırıqlarından istifadə etməklə seçilmiş süni intellekt əsaslı dil öyrənmə alətləri ilə qarşılıqlı əlaqə vasitəsilə toplanmışdır. Hər bir platformanın təqdim etdiyi nəticələr dəqiqlik, əks-əlaqənin keyfiyyəti, uyğunlaşma qabiliyyəti və tədris əhəmiyyəti kimi meyarlar əsasında sistemli şəkildə təhlil edilmişdir. Nəticələr göstərir ki, süni intellekt əsaslı alətlər operativ əks-əlaqə, fərdiləşdirilmiş öyrənmə dəstəyi və müstəqil məşq üçün geniş imkanlar təqdim etməklə dil öyrənmə prosesinin səmərəliliyini artırır. Bununla yanaşı, əldə edilən nəticələr süni intellekt texnologiyalarından həddindən artıq asılılığın öyrənənlərin idrak fəallığını azalda və real kommunikativ ünsiyyət imkanlarını məhdudlaşdıra biləcəyini göstərir. Tədqiqat vurğulayır ki, süni intellekt əsaslı dil öyrənmə alətləri xarici dil tədrisində tamamlayıcı resurslar kimi nəzərdən keçirilməlidir. Onların ənənəvi tədris metodları ilə birlikdə səmərəli şəkildə inteqrasiyası daha effektiv və fərdiləşdirilmiş dil öyrənmə nəticələrinin əldə edilməsinə töhfə verə bilər.

Açar sözlər: *süni intellekt, dil öyrənmə, ChatGPT, fərdiləşdirilmiş tədris proqramları, tərcümə alətləri, akademik nəticələr*

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Introduction

In recent years, artificial intelligence (AI) has become a widely discussed concept due to significant advancements in technology and its increasing integration into various aspects of society. Over time, technological innovations have been developed to reduce human effort, minimize stress, and improve efficiency in daily life. Today, AI is applied across multiple domains, including business, healthcare, finance, and education. Despite the growing number of studies on artificial intelligence in education, most existing research has primarily focused on general AI applications or single-tool analyses, particularly ChatGPT. There is still limited empirical research that provides a comparative evaluation of multiple AI-based language learning tools within a single study.

In addition, previous studies tend to emphasize the positive effects of AI, such as personalization and feedback, while paying less attention to the combined pedagogical differences between tools such as ChatGPT, Duolingo, Grammarly, ELSA Speak, Google Translate, and Memrise. Moreover, there is a lack of qualitative analysis examining how these tools differ in supporting specific language skills (speaking, writing, vocabulary, and pronunciation) under equal learning conditions. Previous studies have widely explored the integration of artificial intelligence in education, highlighting its potential to enhance personalized learning, feedback systems, and learner engagement (Chen et al., 2020; Holmes et al., 2019). In language learning contexts, AI-based tools have been shown to support vocabulary acquisition, grammar development, and communicative competence (Godwin-Jones, 2019; Li, 2021).

Research on conversational agents and chatbots also indicates their usefulness in providing interactive language practice and reducing learner anxiety (Karsenti, 2019). However, scholars also emphasize limitations such as lack of emotional intelligence and insufficient understanding of cultural context.

In the field of education, AI plays an increasingly important role by transforming traditional learning processes. The integration of distance learning, online courses, personalized instruction, interactive and visual materials, enhanced teacher–student interaction, and data-driven analysis has made education more accessible, flexible, and effective. This shift emphasizes learner-centered approaches, diversification of educational resources, and stronger instructional support from educators. In foreign language learning, AI enables personalized instruction by adapting to learners' individual characteristics such as learning pace, motivation, and preferred learning styles, which are often difficult to address in traditional classrooms. Foreign language acquisition is a complex process that requires the development of four key skills: speaking, listening, reading, and writing.

AI-based systems support this process by analyzing learner performance and adjusting content accordingly. As noted by Chen et al. (2020), AI enhances learning efficiency through intelligent feedback mechanisms, real-time error correction, and the provision of personalized educational materials.

Purpose and Questions of the Research

The primary purpose of this study is to investigate the role and effectiveness of artificial intelligence (AI) tools in the foreign language learning process. In particular, the study focuses on examining how AI-based applications, especially ChatGPT, contribute to the development of language skills such as reading, writing, listening, and speaking. The research also aims to evaluate both the positive and negative impacts of AI on learners' cognitive abilities, academic performance, and overall language acquisition process.

In the context of rapidly evolving educational technologies, it is essential to understand how AI-based language learning tools can be integrated into language teaching in a pedagogically sound manner. Therefore, this study seeks to explore not only the benefits of AI-supported learning environments but also the potential risks associated with overreliance on such technologies. The sub-questions are:

1. How can they benefit from the Artificial Intelligence Tool ChatGPT to improve their English language skills?
2. How can Artificial Intelligence Tool ChatGPT provide individualized learning experiences to students?

Importance of Research

AI provides learners many opportunities such as pronunciation studies, speech patterns, grammar rules, personalized study programs. For this reason, ChatGPT has gained increasing popularity and is widely utilized by students in language learning contexts. However, the effective use of artificial intelligence tools in foreign language learning requires appropriate pedagogical guidance. In this regard, the present study aims to contribute to a better understanding of how AI-based tools can be used more effectively in educational settings. It is therefore important for both researchers and learners to develop a more informed and structured approach to the use of ChatGPT in language learning processes.

Methods/Model of the Research

The study does not involve a large-scale experimental sample; instead, it is based on a pilot and observational approach. The analysis focuses on interactions between learners and artificial intelligence tools, particularly ChatGPT, within a simulated language learning context. Therefore, no specific number of participants was included, as the study primarily examines AI-generated responses and learner-AI interaction patterns.

Document analysis involves the systematic review and interpretation of written, visual, and digital materials related to the research topic. These materials include academic publications, reports, and AI-generated content. Observation, on the other hand, allows the researcher to analyze how AI-based

language learning toolss function in practice and how learners interact with them (Gasimova, 2015, p 13).

The study utilizes several widely used AI-based language learning tools as research materials. These include Duolingo, ELSA Speak, Google Translate, Grammarly, and Memrise. These application systems were selected due to their widespread use in foreign language education and their integration of artificial intelligence technologies. This methodological approach enables the study to provide a comprehensive understanding of the impact of AI on language learning without relying on numerical data, thus emphasizing depth over breadth.

Data Collection Tool and Data Analysis

In this study, a comparative analysis was conducted by providing identical language learning inputs to different AI-based application systems, including Duolingo, ELSA Speak, Google Translate, Grammarly, and Memrise. Each application system was given the same set of tasks, including vocabulary learning, grammar correction, translation, writing support, and language practice activities. The outputs generated by each tool were recorded and systematically compared.

The comparison focused on several criteria, including accuracy of responses, quality of feedback, level of personalization, and overall pedagogical effectiveness. This approach allowed the researcher to evaluate the strengths and limitations of each AI-based language learning tools under equal conditions, ensuring a fair and consistent analysis framework. The researchers provided ChatGPT with various language learning tasks, including vocabulary learning, dialogue practice, and grammar explanation requests. The generated responses were recorded and analyzed for accuracy, relevance, and pedagogical value. The data for this study were collected through document analysis and interaction with AI-based language learning tools, particularly ChatGPT. Various prompts and questions related to foreign language learning were input into the system, and the responses generated by the AI were recorded and analyzed.

Concept of Artificial Intelligence and Foreign Language Education

Artificial intelligence can be used in many ways in learning a foreign language. These include developing language skills such as text analysis, word studies, pronunciation studies, translation, and reading and writing. With the correct guidance of students, artificial intelligence tools can provide a personalized environment (Guliyeva, 2026). When we focus on artificial intelligence, it is seen that individuals can benefit from artificial intelligence in many ways. Nowadays, many individuals spend more time in the virtual environment than in the classroom environment. Artificial intelligence tools provide users with great opportunities in learning a foreign language through training. Students will be able to use a foreign language with proper training for its use in foreign language learning and their learning can be accelerated. Individualized learning, regardless of time and classroom environment providing an environment can be considered one of the biggest advantages of artificial intelligence.

Effects of AI on Language Education

When the potential effects of AI on language education are examined, it is seen that topics such as personalized learning, instant feedback, removal of language barriers and distance education come to the fore. According to Johnson the prominent effects of AI are listed below:

Personalized learning experience: AI can offer personalized learning plans by analyzing learners' learning habits, speeds, strengths and weaknesses. Content and activities adapted to each student's needs can provide more effective and faster learning.

Student Analytics and Improvement: By constantly monitoring student progress, AI can determine which topics need more practice. Based on this data, educational materials and learning methods can be continuously improved.

Instant Feedback and Accuracy: By providing instant feedback to learners, AI can quickly correct their mistakes. It can also detect errors in pronunciation and grammar precisely. In this way, learners can progress faster.

Unlimited Practice Opportunity: AI-supported language learning applications can offer learners unlimited practice opportunities. While practicing speaking or completing written assignments, learners can access the guidance of the AI teacher without interruption.

Translation and Removing Language Barriers: AI-supported translation tools can facilitate communication between people speaking different languages (Jordan, 2015). It can also provide learners with language barriers with tools that make their learning more understandable and accessible.

Understanding Cultural Differences: AI can help learners understand the language and expressions of different cultures. In this way, students' cultural understanding and communication skills can be improved.

Innovative Teaching Approaches: AI can help develop innovative teaching approaches such as gamification, virtual reality and augmented reality. It can provide learners with more interactive and engaging learning experiences

Sample AI Supported Language Programs There are various AI-supported language teaching programs that can be used in language teaching. Some examples are listed below:

Duolingo: one of the pioneers of language learning applications, offers students the opportunity to develop four basic language skills (speaking, listening, writing, reading) with an AI-based approach. It stands out with instant feedback and personalized learning plans.

Rosetta Stone: Offers language learning packages integrated with AI using natural language learning methods. It improves students' ability to practice speaking by providing them with the opportunity to learn through real-life scenarios.

Memrise: It is a application system that supports learning words and expressions using AI and memory techniques. It offers students the opportunity to expand their vocabulary and learn quickly.

Babbel: It is a language learning application system that focuses on improving speaking skills. AI offers students the opportunity to practice speaking and improve their pronunciation through real-life scenarios.

Google Translate: which is very popular in translation, offers language learners the opportunity to learn the meanings of words and expressions in addition to translating text and speech.

Elsa Speak: Focusing specifically on improving English pronunciation, ELSA Speak provides feedback to students with AI to detect and correct pronunciation errors.

Lingvist: Aiming to accelerate the language learning process, Lingvist creates personal learning plans with AI and provides students with intensive vocabulary practice.

Talking Pal: This program is an AI-powered language learning tool designed to improve speaking skills through interactive conversations. It allows learners to practice real-life dialogues in different languages anytime and anywhere. The application system provides instant feedback on pronunciation, grammar, and fluency, helping users build confidence in communication. By simulating natural conversations, Talking Pal creates a supportive, low-anxiety environment for language practice and skill development.

Chatbots have great potential in language learning. Providing students with the opportunity to practice the target language promises a learning process in which are free from worries about making mistakes and have the opportunity to practice sufficiently (Kovsar, 2025). Chatbots, compatible with the concept of education anywhere and anytime, are considered as a tool that supports language teaching with the opportunity to suggest materials, correct grammatical mistakes of the student with feedback, improve their vocabulary and make evaluations. One of the problems encountered is that chatbots cannot establish sufficient natural dialogue. Many chatbots' responses can be redundant, predictable, and impersonal (Karsenti, 2019). A Despite the advancement of artificial intelligence, it is difficult for software developers to design intelligent dialogue in chatbots (Ismayilli, 2025, p. 5). For example, if students mistype their input, in this situation may receive irrelevant responses from the chatbot. It is difficult for chatbots to imitate one-on-one conversations between people. Additionally, in chatbots, students' interaction can be limited to a predetermined knowledge base. This situation prevents students from discussing different topics as they wish with chat robots and may cause students to offer very superficial and limited conversation areas. This situation in chat robots can easily cause students to lose interest.

Artificial Intelligence Tool- ChatGPT is an artificial intelligence tool capable of generating coherent and informative responses in natural language. It supports users in problem-solving, information retrieval, and language learning activities. The system can be applied to various tasks, including translation, text generation, and the automation of academic writing such as essays and assignments.

In addition, ChatGPT can process both written and spoken instructions and provide personalized outputs based on user needs and preferences. Continuous development of the model by researchers contributes to the expansion of its functionalities and improvement of its performance in different domains.

Achievements for Individualized Learning Experience and Artificial Intelligence Supported Learning
The results obtained from the analysis and entered commands in the field of English as a foreign language in ChatGPT and other AI-based language learning tools, provide an unique learning environment for students with rapid evaluation and different content can offer. These can be listed as follows:

Instant and Fast Feedback: Regardless of the environment (classroom, home environment) students are in, the artificial intelligence-supported tool You can get instant feedback regarding your ChatGPT needs at any time (Ali, 2025). This tool, which can be accessed free of charge via both smartphones can provide fast and accurate feedback.

Guiding: You can provide students with the tasks undertaken by teachers and guide them can provide support. In this way, students can determine their own strengths and weaknesses and develop their own learning paths.

Individual or Group Work: Students can individually evaluate what can be have obtained from ChatGPT tools, organizing group activities and support individual activities by sharing experiences with other friends;

Talk with ChatGPT:

I want to learn vocabulary through studying. Do you know 10 important words and meanings?
Naturally! Here are 10 important vocabulary words and their meanings to help you as you study could be helpful:
Research (noun): The systematic search for information, data or facts for a specific task or project.
Bibliography (noun): A list of sources or references contained in a scientific text or a scientific work were used to to make the origin of information traceable.

Method (noun): A systematic approach or procedure carried out in a scientific investigation, an experiment or a study is used to Collect, analyze or interpret data.

Analysis (noun): The process of examining data, information or materials to identify patterns, trends or insights.

Thesis (noun): A claim or statement made in an academic paper or an argument is presented and must be supported by evidence or arguments.

Plagiarize (verb): The unauthorized copying or adoption of texts, ideas or Other people's work and passing it off as your own without proper attribution close.

Citation (noun): A written or oral statement of the source from which information comes or quotations were taken to ensure the credibility and comprehensibility of a work ensure.

Dissertation (noun): A detailed written work, usually as a Thesis for a higher academic degree, such as a doctorate, is written. These vocabulary should be useful for your studies and academic work.

Good luck with your learning!

Talk with AI

Hello, how are you?

Hello! I'm fine thank you. I'm just a computer program, so I have no feelings, but I'm here to help you. How can I help you today?

I want to learn English. Can we talk?

Naturally! I would be happy to help you learn German. What would you like to talk about or what questions do you have? You are welcome to choose a topic that interests you, or I can teach you basic phrases and vocabulary if you prefer.

Travel in England. What are the important sights in England?

England is a country with a rich history and many interesting ones

Sightseeing attractions. Here are some of the top attractions in England:

1. London

The British Museum: Home to priceless artifacts like the Rosetta Stone and Egyptian mummies.

Tower of London: A historical fortress that houses the Crown Jewels.

Buckingham Palace: The official residence of the British monarch, complete with the Changing of the Guard ceremony.

Big Ben and the Houses of Parliament: Iconic landmarks along the River Thames.

The London Eye: A giant Ferris wheel offering stunning views of the city.

2. Stonehenge (Wiltshire)

One of the most famous prehistoric monuments in the world, shrouded in mystery about its purpose and construction.

3. The Lake District (Cumbria)

A stunning national park, known for its mountains, lakes, and picturesque villages. It's ideal for hiking, boating, and enjoying nature.

4. Oxford

Home to the University of Oxford, one of the oldest and most prestigious universities in the world. You can explore historic colleges, libraries, and museums.

In this example, the command to artificial intelligence is to choose a topic and chat about that topic. The conversation took place in written form. The free version of the artificial intelligence tool was used during the conversation (Ismayilli, 2025, p. 8) There is also a voice chat option in the paid version. Artificial intelligence can be used to improve speaking skills, the audio version can be used using the paid version, and listening skills can also be supported in this way.

Artificial Intelligence Supported Language Teaching
I have students who have level A1 in English I want face-to-face lessons today give. How can I teach this? Approach. Here are some steps and ideas to help you with in-person teaching Students with A1 English skills can help:

1. Greeting and introduction: Start the lesson with a friendly one

Welcome and have students introduce themselves. This promotes communication in English from the beginning.

2. Review of previous:

If this is not the first lesson, start you with a brief review of the previous material to ensure that the students retained what they learned.

3. Thematic introduction: Choose a specific topic for the lesson, e.g.

“Family”, “Food” or “Travel”. Introduce the topic to the students and tell me briefly about it.

4. Introduce vocabulary and expressions: Present new vocabulary and expressions, that fit the chosen topic. Use pictures, maps and other visuals.

The issue of language learning with artificial intelligence can be exemplified in different ways. Apart from the examples given, artificial intelligence can be used in language learning in many different ways. Language learning with artificial intelligence is an effective tool in many aspects such as speaking, writing, listening and grammar. The individual can improve himself individually and receive feedback on his mistakes without the need for a trainer. In addition, it can learn languages only with the support of artificial intelligence without using resources. Artificial intelligence can be used for individual language learning, as well as a support tool for language instructors.

In addition to its rising importance and potential in the field of language education, AI technology also brings with it some important limitations. AI-based solutions run the risk of not fully grasping the complexity and nuances of language. Especially jokes, word games, and complex structures of the language may not be interpreted correctly by AI, which may lead to erroneous results. Additionally, it may be difficult for AI to fully make sense of human emotional and unique expressions. However, the unique talents and contributions of teachers should not be forgotten. Skills such as establishing emotional bonds with students, motivating them, understanding their needs and developing individual learning approaches are the basic elements of teachers that enrich the learning experience of their students. The human factor is indispensable for understanding students' unique

needs, providing them with tailored guidance, and supporting them throughout the educational process.

Limitations of AI And The Human Factor Apart from many advantages, artificial intelligence also has disadvantages. Since the individual has a tool that responds quickly, he/she may not force himself/herself to think and may ask for answers from artificial intelligence. This situation can push individuals away from thinking and into laziness. In addition, when students are asked to write text in English, they can have it written to artificial intelligence, which may make it difficult for students to learn by causing them to access ready-made and fast information (Chen 2020, p. 34). In addition, it is very difficult to control since there is no monitoring mechanism.

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Table 1
Disadvantages

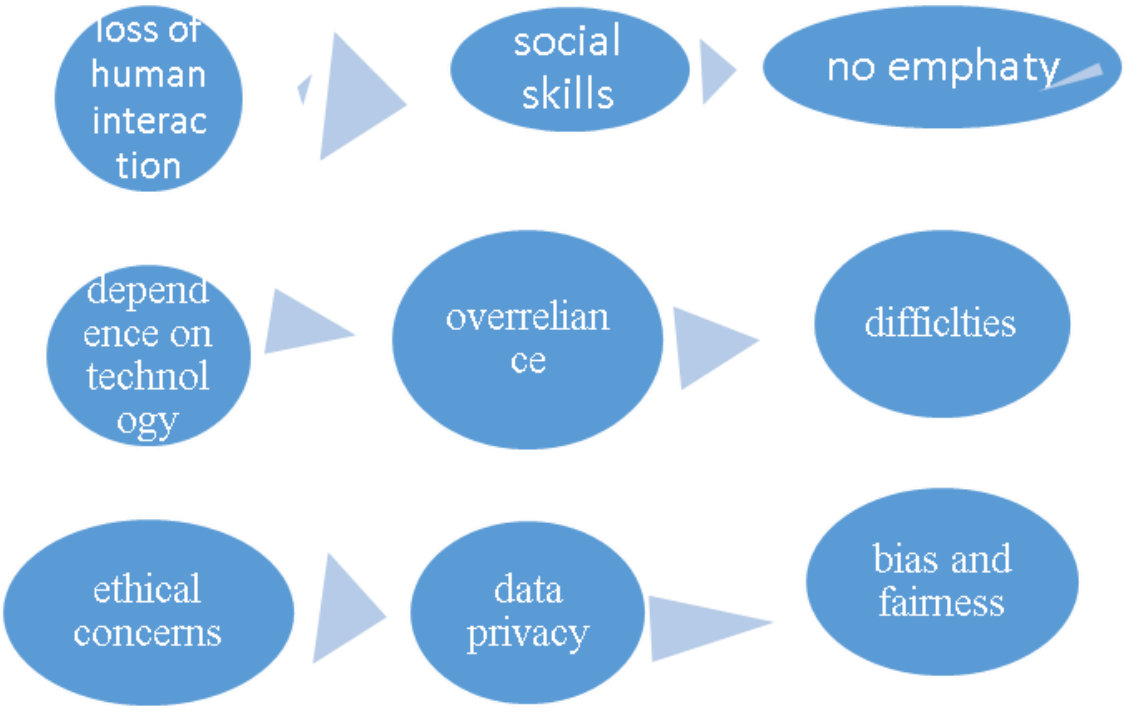
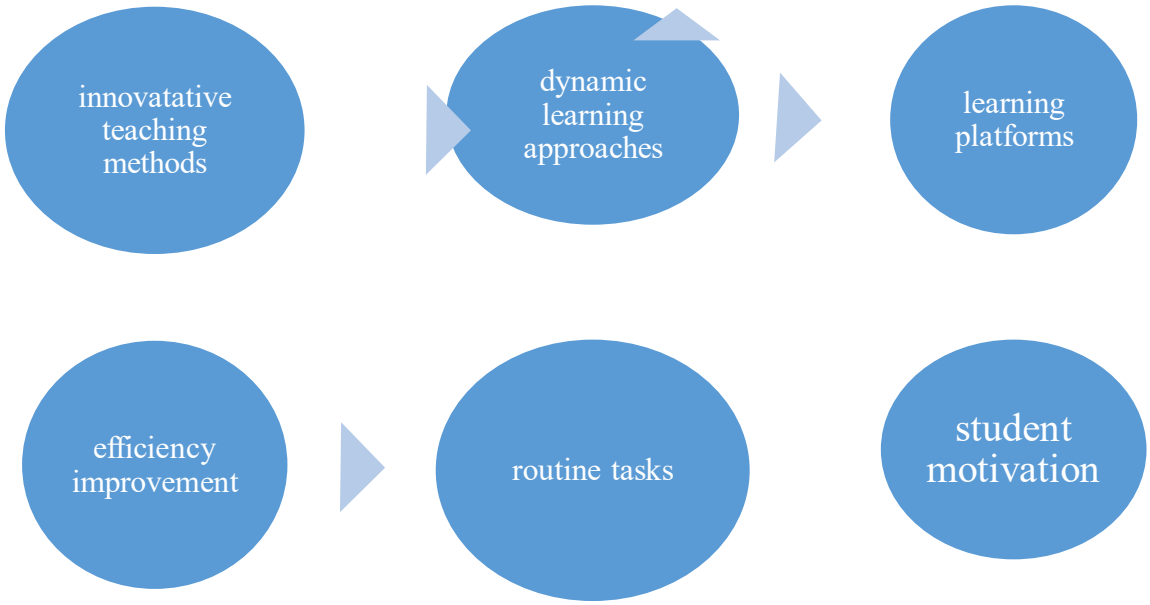


Table 2
Advantages



AI may have limitations in fully grasping the complexity of language and its emotional expressions. Additionally, it is not possible to completely replace teachers' important abilities, such as emotional bonding, motivating, and sensitivity to student needs, with AI. As a result, an ideal language education approach should aim to provide learners with a personalized, effective and enriched learning experience by using the strengths of AI technology. The unique contributions and emotional bonds that teachers give to their students should not be forgotten. An ideal balance should seek to best optimize the learning experience by bringing together technology and the human factor. In the future, the opportunities provided by AI and teachers' use of them in the most effective way will make language education more effective, efficient and satisfying. Chatbots have potential as a teaching and learning tool in distance and online education.

The ability of chat robots to provide original answers thanks to their natural language processing software has paved the way for their use especially in foreign language education. Chat robots offer students learning a foreign language the opportunity to practice the target language whenever and wherever they want. Artificial dialogue systems offer an alternative way to learn through interaction, students can chat in their target language whenever they want without the need for a teacher. When designing chat robots, they should be designed to suit the student, taking into account language proficiency, age, learning style and individual differences.

The findings of this study, based on a comparative qualitative analysis of several AI-based language learning tools, including ChatGPT, Duolingo, Grammarly, ELSA Speak, Google Translate, and Memrise, demonstrate that artificial intelligence plays a significant role in supporting foreign language learning. The results indicate that these tools contribute to improved learning efficiency through personalized instruction, instant feedback, and increased opportunities for independent practice.

The analysis shows that different AI tools serve distinct pedagogical functions. ChatGPT and Grammarly are particularly effective in supporting writing development through grammatical correction, feedback generation, and text improvement. Duolingo and Memrise primarily enhance

vocabulary acquisition through structured repetition and gamified learning environments, while ELSA Speak provides focused support for pronunciation accuracy through real-time feedback mechanisms. Google Translate contributes to comprehension and translation tasks; however, it demonstrates limitations in handling contextual, idiomatic, and culturally embedded expressions.

Expected vs. Actual Findings
Before conducting the analysis, it was expected that AI tools would mainly differ in terms of interface and usability rather than pedagogical effectiveness. However, the findings revealed that the differences are not only technical but also instructional. Specifically, tools vary significantly in how they support specific language skills. For instance, ELSA Speak showed stronger specialization in pronunciation training than expected, while Grammarly demonstrated a broader pedagogical role in writing development than initially assumed.

Key Contribution of the Study
The main contribution of this research lies in its comparative qualitative framework, which systematically evaluates multiple AI-based language learning tools under equal task conditions. Unlike previous studies that focus on single-tool analysis (e.g., ChatGPT-only studies), this research provides an integrated perspective on how different AI systems complement each other in foreign language learning. Additionally, the study contributes to the field by categorizing AI tools according to skill-specific functions (writing, vocabulary, pronunciation, and translation), offering a clearer pedagogical classification model.

Implications
The findings suggest that AI technologies support a learner-centered educational approach by enabling individualized learning paths, self-paced study, and immediate corrective feedback. However, the study also highlights that overreliance on AI tools may reduce learners' critical thinking, creativity, and active language production. Therefore, AI should be integrated as a complementary tool rather than a replacement for traditional instruction.

Limitations and Future Research
This study is limited by its qualitative design and lack of real participant-based empirical data. Future research should include experimental or mixed-method designs with learner groups to measure the direct impact of AI tools on language proficiency development. In addition, longitudinal studies are recommended to examine how continuous use of AI influences language retention, communicative competence, and learner autonomy over time. Further research may also explore affective factors such as learner motivation, anxiety, and engagement when interacting with AI-based systems in foreign language education.

Results

The findings of this study indicate that artificial intelligence tools, particularly ChatGPT, significantly support foreign language learning. AI provides instant feedback, allowing learners to quickly identify and correct their mistakes, which improves grammar and vocabulary skills. Another key result is the promotion of personalized learning. AI-generated content can be adapted to learners' levels, needs, and interests, increasing motivation and engagement. Additionally, AI-based language learning tools offer unlimited practice opportunities, especially in writing and speaking, creating a low-anxiety learning environment.

The results also show that AI contributes to the development of multiple language skills, including reading, writing, and speaking, while making learning more flexible and accessible. However, several negative effects were identified. Overreliance on AI may reduce independent thinking and cognitive effort, as learners tend to depend on ready-made answers. This can negatively impact academic performance and critical thinking skills, particularly among younger learners.

Furthermore, excessive use of AI may limit the development of communication and social skills, as learners have fewer opportunities for real-life interaction. The study also highlights some limitations of AI, including difficulties in understanding complex language structures and cultural nuances. This study also involved an analytical review of several widely used AI-based language learning tools, including Duolingo, ELSA Speak, Google Translate, Grammarly, and Memrise.

These application systems were examined in terms of their functionality, pedagogical value, and contribution to foreign language skill development. Duolingo and Memrise primarily focus on vocabulary acquisition and structured language practice through gamified learning techniques, which increase learner motivation and engagement. ELSA Speak specializes in pronunciation training by providing real-time feedback and phonetic correction, thereby supporting speaking skill development. Google Translate was analyzed as a translation and comprehension support tool, offering instant multilingual translation but showing limitations in handling contextual and idiomatic expressions. Grammarly was evaluated as a writing assistant that improves grammatical accuracy, sentence structure, and coherence in learner output. The comparative analysis of these tools indicates that AI-based applications contribute significantly to personalized and autonomous language learning. However, their effectiveness depends on balanced usage, as overreliance may reduce learners' independent cognitive and productive language skills.

Discussion

The findings of this study highlight both the advantages and limitations of artificial intelligence in foreign language learning across different AI-based tools, including ChatGPT, Duolingo, Grammarly, ELSA Speak, Google Translate, and Memrise. The comparative analysis shows that these tools contribute significantly to language learning through instant feedback, personalized learning experiences, and increased practice opportunities.

Among the examined application systems, AI-powered systems such as ChatGPT and Grammarly demonstrated strong performance in providing detailed explanations, grammatical correction, and writing support, while Duolingo and Memrise were particularly effective in vocabulary acquisition through gamified learning techniques. ELSA Speak showed clear advantages in pronunciation training by offering real-time corrective feedback, whereas Google Translate was mainly useful for quick translation and basic comprehension, although it showed limitations in contextual accuracy. These findings are consistent with previous research emphasizing the role of AI in promoting learner autonomy and engagement.

The results also indicate that AI-based tools support a learner-centered approach by allowing students to practice language skills independently and at their own pace, which may enhance learning efficiency. However, the study also reveals that overreliance on AI-based language learning tools may negatively affect learners' critical thinking, creativity, and problem-solving skills. The ease of access to ready-made answers can lead to passive learning behavior and reduced cognitive effort. In addition, the findings suggest that excessive use of AI may limit opportunities for real-life communication practice, which is essential for developing social and interactive language skills. Since language learning is both a cognitive and social process, reduced human interaction may negatively influence communicative competence.

Furthermore, although AI-based language learning tools are highly effective in specific language tasks, their limitations in understanding cultural nuances, emotional expressions, and complex linguistic contexts remain evident. This indicates that AI cannot fully replace the role of teachers, who provide motivation, emotional support, and contextualized learning experiences.

In conclusion the study concludes that different AI-based language learning tools serve complementary roles in foreign language learning. Therefore, effective language education should

integrate multiple AI technologies in a balanced way, alongside traditional teaching methods, to maximize learning outcomes.

Conclusion

The findings of this study, based on a qualitative comparative analysis of several AI-based language learning tools, including ChatGPT, Duolingo, Grammarly, ELSA Speak, Google Translate, and Memrise, indicate that artificial intelligence contributes to foreign language learning in different but complementary ways.

The analysis of ChatGPT demonstrates that it is particularly effective in supporting writing skills by providing detailed explanations, essay structuring, and grammar clarification. Similarly, Grammarly shows strong performance in grammatical accuracy, sentence correction, and improving writing coherence, making it a useful writing support tool. Duolingo and Memrise were found to be effective in vocabulary acquisition, as both application systems use structured repetition and gamified learning strategies that enhance memorization and learner engagement. These tools support continuous exposure to new lexical items through interactive exercises. ELSA Speak provides targeted support for pronunciation development by offering real-time phonetic feedback and error correction, which contributes to improved speaking accuracy and fluency.

Google Translate is mainly effective as a quick translation and comprehension tool; however, its performance is limited in handling contextual meaning, idiomatic expressions, and discourse-level accuracy. According to the analysis the comparative analysis shows that AI-based language learning tools contribute to different aspects of language learning depending on their design and function. Rather than providing uniform learning outcomes, each tool supports specific language skills. In addition, the results suggest that AI-based tools can enhance learner autonomy, engagement, and access to practice opportunities. However, excessive reliance on these systems may reduce learners' critical thinking, productive language use, and real-life communicative interaction. Furthermore, despite their advantages, current AI systems still face limitations in fully capturing cultural nuance, pragmatic meaning, and emotionally rich language use. Therefore, AI should be considered as a complementary resource rather than a replacement for traditional teaching methods.

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