

THE ROLE OF AI IN LANGUAGE LEARNING AND TEACHING

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ABSTRACT: Advancements in technology have led to increase the useability of artificial intelligence (AI) in education, affecting language instruction significantly. This paper investigates the role of artificial intelligence (AI) in English language education (ELT) and how it can improve student performance. It investigates how AI can improve learning by tailoring it to students' needs and preferences, providing flexible learning directions and instant feedback.

Key words: Artificial intelligence, language learning, Teaching English, Language education, Adaptive learning, Personalized instruction, Natural Language Processing (NLP), Chatbots, Virtual assistants, Immersive language practice, Intelligent Tutoring Systems (ITS).

TIL O‘RGANISH VA O‘QITISHDA SUN‘IY INTELLEKTNING O‘RNI

ANNOTATSIYA: Texnologiyadagi yutuqlar ta'limda sun'iy intellektdan (AI) ko'proq foydalanishga olib keldi va bu til o'qitishga sezilarli ta'sir ko'rsatdi. Ushbu maqola ingliz tilini o'qitishda (ELT) sun'iy intellektning (AI) o'rni va talabalar samaradorligini qanday oshirishi mumkinligini o'rganadi. U AI talabalarning ehtiyojlari va afzalliklariga moslashtirish, moslashuvchan o'rganish yo'nalishlari va tezkor fikr-mulohazalarni taqdim etish orqali o'rganishni qanday yaxshilashi mumkinligini o'rganadi.

Kalit so'zlar: Sun'iy intellekt, til o'rganish, Ingliz tilini o'rgatish, Til ta'limi, Adaptiv o'rganish, Shaxsiylashtirilgan ta'lim, Tabiiy tilni qayta ishlash (NLP), Chatbotlar, Virtual yordamchilar, Immersiv til amaliyoti, Intelligent Repetitorlik Tizimlari (ITS).

РОЛЬ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ИЗУЧЕНИИ И ПРЕПОДАВАНИИ ЯЗЫКОВ

АННОТАЦИЯ: Достижения в области технологий привели к более широкому использованию искусственного интеллекта (ИИ) в образовании, что существенно повлияло на обучение языку. В этой статье исследуется роль искусственного интеллекта (ИИ) в обучении английскому языку (ELT) и то, как он может улучшить успеваемость учащихся. В ней исследуется, как ИИ может улучшить обучение, адаптируя его к потребностям и предпочтениям учащихся, предоставляя гибкие направления обучения и мгновенную обратную связь.

Ключевые слова: искусственный интеллект, изучение языка, преподавание английского языка, языковое образование, адаптивное обучение, персонализированное обучение, обработка естественного языка (NLP), чат-боты, виртуальные помощники, иммерсивная языковая практика, интеллектуальные системы обучения (ITS).

Introduction. Artificial intelligence (AI) is the science and engineering of developing intelligent machines such as computer programs. It enables machines to replicate human behavior. AI is transforming education by improving teaching methods, personalizing learning experiences, and expediting administrative tasks. Artificial intelligence, distinguished by its ability to simulate human intelligence, has advanced significantly in recent years, affecting many aspects of society. AI is increasingly being studied as a promising tool for supporting and improving language learning and teaching.

Artificial intelligence can help improve core language competencies such as speaking, listening, reading, and writing. AI-powered tools, such as speech recognition, chatbots, virtual tutors, and language learning apps, help to create engaging and interactive learning experiences. These innovations, such as instant feedback, tailored assessments, and personalized learning materials, have the potential to improve learners' communication skills and accelerate the process of learning a new language.

Literature review. AI is having a significant impact on many areas of education, including teaching English as a second language (ELT). AI-powered tools and technologies improve students' learning experiences, personalize learning, and provide immediate feedback at all grade levels.

According to Afrianto, I, Rusmiyanto et al. (2019), AI technologies such as speech recognition and virtual instructors can help students improve their speaking and pronunciation abilities. AI-driven feedback produced significant improvements when compared to non-AI feedback. A detailed explanation of how AI technologies can help teachers and students in the classroom is required [1,78].

According to Cobar, Al-Gayyar (2016), AI applications are diverse, with online learning systems playing a particularly important role. These are the most significant applications of artificial intelligence in education. The result of combining multiple AI systems and applications, such as Intelligent Tutoring Systems, Activating the Internet, Activating Hypermedia, and Activating Distance E-education [2,145].

AI in language education can increase learner autonomy by providing on-demand access to resources and feedback from anywhere. It can personalize learning journeys based on learners' progress, preferences, and learning styles. Furthermore, AI can address challenges faced by English learners such as a lack of native speakers, delayed feedback, and the need for personalized support.

AI has the potential to improve all students' educational experiences by increasing equality, efficiency, and enjoyment. Artificial intelligence (AI) is having a significant impact on many aspects of education, including teaching English as a second language (ELT). AI-powered tools and technologies are being used to create more immersive and engaging learning experiences for students of all grade levels, as well as to personalize instruction and provide immediate feedback.

Covili and Muhammad (2019) describes various applications of artificial intelligence (AI), including "electronic neural networks, developed hybrid systems, applications of developmental algorithms, electronic auto-copying, adaptive electronic platforms, bio-robots, nanotechnology, chemical and organic systems, and advanced controlling systems" [3,90].

AI has a wide range of applications for improving English language education. Here's how it can be used:

- 1 -Smart Tutoring Systems: AI-powered tutoring systems provide personalized guidance and adaptive lessons by analyzing individual needs and tailoring instruction accordingly.
- 2-Pronunciation Practice: Artificial intelligence evaluates speech patterns and provides instant feedback to help users improve their intonation and pronunciation skills.
- 3-Interactive Learning Apps: AI-powered platforms provide personalized lessons, vocabulary drills, and grammar exercises, adapting content to learners' progress and preferences.
- 4- Automated Assessment: AI automates tasks such as essay grading by providing objective evaluations and immediate feedback to students.
- 5-Natural Language Processing: AI chatbots interact with students, providing practice opportunities and answering language questions.

6- Text-to-Speech and Speech-to-Text: AI tools improve students' listening and reading skills, allowing them to comprehend and produce language more effectively.

7- Adaptive Learning Environments: AI tailors content and pacing to individual learning styles and areas for improvement, resulting in personalized learning paths.

8- Data Mining and Educational Insights: AI algorithms analyze learner data to identify patterns, trends, and problem areas. This valuable information helps educators make informed decisions, create tailored interventions, and closely monitor student progress.

Methodology. In the digital age, technology has become an integral part of our lives, transforming various sectors including education. One area where technology, particularly Artificial Intelligence (AI), has made significant strides is in the field of language learning and teaching. English, as the global lingua franca, is a language that many individuals strive to master. With the advent of AI technology, teaching English has become more accessible, personalized, and effective than ever before. In this article, we will explore the role of AI technology in teaching English and its impact on learners and educators.

According to research, artificial intelligence (AI) has the potential to completely transform English education. AI improves the effectiveness with which students learn languages. While research into the impact of artificial intelligence on education is still in its early stages, preliminary findings are encouraging [4,85].

AI has the potential to enhance language learning by speeding up the process. To understand word relationships, learners repeat phrase patterns. Siri, a feature of Apple's iOS operating system, is one example of AI being used for language learning.

Google Now and Microsoft Cortana are two prominent examples of AI technology in common use today. Google Now is a search engine that understands user commands and queries and automatically opens relevant webpages based on voice commands. It is only available to Samsung Galaxy users running Android. Meanwhile, Microsoft Cortana assists users with a variety of tasks, including making calls, sending messages, setting reminders, taking notes, and identifying music.

According to Kaur and Radwan (2017), artificial intelligence can address challenges in English teaching and learning by using techniques such as information retrieval for comprehension, machine translation for translation skills, automatic speech recognition for accurate pronunciation, text-to-speech for visually impaired students, and digital language dictionaries [5.168].

Analysis and results. One of the key advantages of AI technology in teaching English is its ability to provide personalized learning experiences. Every learner has unique strengths, weaknesses, and learning styles. AI-powered platforms and applications can analyze individual student data, including performance, preferences, and progress, to tailor lessons and materials to their specific needs. This personalized approach allows learners to focus on areas where they need more practice, receive immediate feedback, and progress at their own pace. By adapting to the individual needs of students, AI technology enhances their overall learning experience and boosts their confidence in using English.

AI technology also offers a wide range of interactive tools and resources that facilitate language learning. Intelligent virtual assistants, chatbots, and language learning applications can engage learners in conversations, provide real-time feedback, and simulate real-life language scenarios. These tools not only enhance speaking and listening skills but also foster critical thinking, problem-solving, and creativity. For instance, chatbots can engage learners in dialogues and provide instant corrections, helping them improve their grammar and vocabulary in a natural and interactive manner. AI-powered language learning platforms can

also generate exercises, quizzes, and games that make the learning process more engaging and enjoyable. Furthermore, AI technology enables learners to access vast amounts of authentic and up-to-date language resources. Online platforms and applications leverage AI algorithms to curate relevant and high-quality content, such as articles, videos, podcasts, and news, based on learners' interests and proficiency levels. This exposure to authentic materials helps learners develop their reading and listening skills, expand their vocabulary, and gain a deeper understanding of the English language in realworld contexts. AI-powered language learning platforms also provide learners with instant translations, pronunciation guides, and examples, allowing them to explore and comprehend challenging texts more effectively [6,93].

In addition to benefiting learners, AI technology also supports English language educators in various ways. AI-powered platforms can assist teachers in automating administrative tasks, such as grading assignments, tracking student progress, and generating performance reports. This automation frees up valuable time for teachers, enabling them to focus on providing personalized instruction, giving feedback, and guiding students' language learning journeys. AI technology can also assist educators in identifying common learning difficulties among students, suggesting targeted interventions, and adapting instructional strategies to meet diverse learner needs. By harnessing AI technology, teachers can become more effective facilitators and mentors, nurturing students' language skills and fostering their love for English. However, it is important to acknowledge that AI technology should not replace human teachers entirely. The role of teachers in the language learning process remains crucial. Human interaction, empathy, and cultural understanding are essential aspects of language acquisition that AI technology cannot fully replicate. Therefore, the integration of AI technology in English language classrooms should be seen as a complementary tool that enhances teaching and learning, rather than a substitute for human instruction.

Let's delve deeper into the topic of the role of Artificial Intelligence (AI) technology in teaching English.

Adaptive Learning: AI-powered platforms can analyze vast amounts of data on individual learners, including their strengths, weaknesses, and learning patterns. This data analysis enables the system to adapt and personalize the learning experience for each student. Adaptive learning algorithms can adjust the difficulty level of exercises, provide targeted feedback, and suggest appropriate learning materials based on the learner's specific needs. This personalized approach helps students progress at their own pace and focus on areas that require more attention.

Natural Language Processing (NLP): NLP is a subfield of AI that focuses on the interaction between computers and human language. NLP algorithms have significantly advanced language learning by enabling chatbots and virtual assistants to engage in realistic conversations with learners. These AI-powered language partners can provide immediate feedback, correct pronunciation, and offer explanations, making language practice more interactive and immersive. NLP algorithms also facilitate automatic speech recognition, allowing learners to practice speaking and receive real-time evaluations [7,52].

Intelligent Tutoring Systems: AI technology has paved the way for the development of intelligent tutoring systems (ITS). These systems utilize AI algorithms to provide personalized instruction, track student progress, and offer feedback. ITS can identify common areas of difficulty among learners and provide targeted interventions to address those challenges. By offering individualized guidance, intelligent tutoring systems help learners overcome obstacles and improve their English language skills effectively.

Gamification and Interactive Learning: AI-powered language learning platforms often incorporate gamification elements to make the learning process more enjoyable and engaging. Gamified exercises, quizzes, and challenges motivate learners and stimulate their competitive spirit. AI algorithms can track learners' progress, award points, and provide rewards, creating a sense of accomplishment and encouraging further participation. Additionally, interactive learning features such as virtual reality (VR) and augmented reality (AR) can provide immersive language experiences, allowing learners to practice English in simulated real-world contexts.

Language Assessment and Feedback: AI technology has enhanced language assessment by providing automated grading and feedback. Natural Language Processing algorithms can evaluate written and spoken responses, assess grammar, vocabulary, and fluency, and generate instant feedback. This immediate feedback allows learners to identify and correct mistakes promptly, reinforcing their understanding of the language. AI-powered assessment tools also relieve the burden of manual grading for teachers, allowing them to focus on providing more targeted and comprehensive feedback.

Accessibility and Flexibility: AI-powered language learning platforms have made English education more accessible to learners worldwide. Online platforms offer on-demand access to learning materials, eliminating geographical barriers and enabling learners to study at their convenience. Moreover, AI technology has facilitated the creation of mobile applications that allow learners to practice English anytime, anywhere. These applications often offer offline functionality, making them suitable for learners with limited internet access.

Continuous Learning and Personalized Content: AI algorithms can continuously analyze learner data and adapt the content and materials accordingly. As learners progress, AI-powered platforms can recommend new and challenging materials to keep them engaged and motivated. Additionally, AI technology allows learners to explore various aspects of English, such as vocabulary, grammar, listening comprehension, and cultural contexts, in a personalized and self-directed manner. Learners can focus on their areas of interest and tailor their learning path accordingly. It is important to note that while AI technology has numerous benefits in teaching English, it should be used judiciously. The human element remains crucial in language learning, as teachers provide emotional support, cultural insights, and personalized guidance that AI cannot replicate. The integration of AI technology should complement and enhance the teaching process rather than replace human instructors.

In conclusion, AI technology has revolutionized the way English is taught and learned. Its personalized approach, interactive tools, and access to authentic resources have made language learning more engaging, efficient, and effective. Additionally, AI technology supports educators in providing tailored instruction, automating administrative tasks, and facilitating individualized learning experiences. As AI continues to advance, it holds immense potential to further transform English language education, empowering learners and educators alike. By embracing AI technology in teaching English, we can unlock new horizons in language learning and prepare individuals to thrive in an increasingly interconnected world.

AI technology has revolutionized the field of English language education. Its adaptive learning capabilities, NLP algorithms, intelligent tutoring systems, gamification, and automated assessment tools have transformed the way English is taught and learned. By leveraging AI, learners can benefit from personalized instruction, interactive experiences, and access to authentic resources, while teachers can optimize their teaching strategies and provide tailored guidance. With further advancements in AI, the future of teaching English holds even more exciting possibilities for learners and educators alike.

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