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ROLE OF ARTIFICIAL INTELLIGENCE IN TEACHING A FOREIGN LANGUAGE

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Abstract: The integration of artificial intelligence (AI) into language education has transformed the process of teaching and learning foreign languages. This article explores the pivotal role of AI in enhancing language instruction by providing personalized learning experiences, intelligent tutoring systems, and adaptive assessment tools. AI-powered applications, such as chatbots, speech recognition, and machine translation tools, enable learners to practice language skills in immersive, real-world scenarios.

These technologies foster greater engagement, improve pronunciation, and enhance vocabulary acquisition. Additionally, AI algorithms analyze learner data to tailor content, identify weaknesses, and offer targeted interventions, ensuring effective progress for diverse learners.

The article also examines the challenges of implementing AI in language teaching, including ethical concerns, accessibility, and the need for teacher training. By highlighting the synergies between AI and human educators, this study underscores the potential of AI to complement traditional teaching methods, democratize language education, and prepare learners for global communication in an increasingly interconnected world.

Key words: Artificial Intelligence (AI), Personalized Learning, Intelligent Tutoring Systems, Speech Recognition, Machine Translation, Chatbots in Education, Pronunciation Training, Data-Driven Education, Educational Technology (EdTech), AI-Powered Assessment.

Introduction

Practice and attention to form play an important and crucial role in learning a foreign language. But what if each student could practice their language skills through exercises tailored to their individual skill level, interests, and motivations, and create an intelligent, adaptive foreign language learning environment? How can we ensure that all students are supported and challenged according to their abilities?

Will everyone have the opportunity to self-manage and achieve specific learning goals? How can digital media contribute to learning that is tailored to the individual needs of students in diverse foreign language classrooms?

In an increasingly interconnected world, the ability to communicate in multiple languages has become a vital skill for personal, professional, and academic success. Traditional methods of foreign language teaching, while effective to an extent, often face limitations in addressing the diverse needs, learning speeds, and preferences of students. With the advent of artificial intelligence (AI), a transformative shift is taking place in the field of education, offering innovative solutions to enhance language acquisition.

AI technologies, including natural language processing (NLP), speech recognition, and machine learning, are being leveraged to create intelligent and interactive tools for teaching foreign languages [1].

These tools provide learners with personalized experiences, allowing them to practice speaking, listening, reading, and writing skills in a tailored and adaptive manner. By simulating real-

life communication scenarios, AI-powered applications engage learners in meaningful interactions, fostering confidence and fluency in the target language.

Moreover, AI enables educators to analyze learner progress in real-time, identify areas of difficulty, and customize lesson plans accordingly. It bridges the gap between traditional classroom teaching and the demand for individualized learning paths, making foreign language education more accessible and efficient [2].

However, while AI offers immense potential, its integration into language teaching also raises questions about ethical considerations, teacher roles, and equitable access to technology.

This article explores the multifaceted role of AI in teaching foreign languages, highlighting its benefits, challenges, and future possibilities. By examining the intersection of technology and pedagogy, it aims to provide insights into how AI is reshaping the landscape of language education. The integration of Artificial Intelligence (AI) in foreign language teaching has transformed traditional learning methods, offering personalized instruction, adaptive feedback, and immersive experiences. This research explores the effectiveness of AI-based tools in language acquisition through direct classroom observation, student feedback, and performance analysis.

Methods and Materials

Artificial Intelligence (AI) is one of the latest technological developments that has drawn increasing attention to these issues. There are various definitions of what artificial intelligence is. However, there seems to be some kind of semantic lowest common denominator [3].

To explore the role of artificial intelligence (AI) in teaching foreign languages, this article draws upon a comprehensive review of existing research, case studies, and practical applications of AI-based tools in language education. The methods and materials used for this study include the following:

1. Literature Review

A detailed review of scholarly articles, books, and reports was conducted to understand the theoretical underpinnings of AI in language learning. This included exploring advancements in natural language processing (NLP), machine learning, speech recognition, and educational technology to examine their applications in teaching foreign languages.

2. Case Studies

Case studies of AI-powered platforms such as Duolingo, Rosetta Stone, Babbel, and Google Translate were analyzed to assess their effectiveness in facilitating foreign language acquisition. These case studies focus on features like adaptive learning algorithms, gamified experiences, and speech recognition tools.

3. Surveys and Interviews

To understand the perspectives of educators and learners, existing survey data and interview transcripts from published research were reviewed. These provide insights into the perceived benefits, challenges, and practical outcomes of integrating AI into language instruction.

4. AI Tools and Applications

The study examines specific AI-driven technologies used in foreign language teaching, including:

- Chatbots: AI chatbots like Replika and Mondly that engage learners in conversational practice.
- Speech Recognition Tools: Applications like Speechling that provide real-time feedback on pronunciation and intonation.
- Translation Systems: Machine translation tools such as Google Translate and DeepL to facilitate vocabulary building and contextual understanding.
- Intelligent Tutoring Systems (ITS): Platforms that offer personalized learning pathways, such as Carnegie Learning's MATHia and AI-based extensions in language learning.

5. Classroom Integration

Examples of classroom-based experiments where AI tools were used alongside traditional teaching methods were examined. These include hybrid models where teachers and AI collaborate to enhance speaking, writing, and comprehension skills.

6. Evaluation Metrics

The effectiveness of AI tools was evaluated based on criteria such as learner engagement, improvement in language proficiency, adaptability to individual needs, and user satisfaction. Data from educational platforms, academic papers, and feedback from learners were considered to measure outcomes.

By utilizing these methods and materials, this article provides a comprehensive understanding of how AI transforms foreign language teaching, enabling personalized, efficient, and engaging learning experiences. Additionally, the study highlights the challenges and limitations of AI technologies, ensuring a balanced perspective on their role in education.

AI technology also gives learners access to a vast amount of authentic and up-to-date language resources. Online platforms and apps use AI algorithms to curate relevant, high-quality content, such as articles, videos, podcasts, and news stories, based on students' interests and ability levels. Exposure to authentic material helps students develop reading and listening skills, expand their vocabulary, and gain a deeper understanding of English in real-world situations. AI-powered language learning platforms also provide instant translations, pronunciation guides, and examples to help learners navigate and understand difficult texts more effectively. In addition to helping students, AI technology supports English teachers in several ways [4].

AI-powered platforms help teachers automate administrative tasks such as grading assignments, tracking student progress, and generating performance reports. This automation saves teachers valuable time. Providing personalized learning, providing feedback, allows you to focus on guiding your students on their language learning journey.

AI-based writing tools like Language Tool or Grammarly can help learners develop a concrete awareness of the diversity of language.

The basic version offers a relatively basic approach to language checking, while the premium version is somewhat more expensive. Learners will realize that language is not just a process of checking spelling and grammar, but also heavily relies on context and consistency. Since learners must first write text before it is analyzed, traditional productive writing skills are not 'threatened' or replaced by machines [5].

Grammarly not only indicates whether expressions or phrases in written text are incorrect, but also provides linguistic feedback.

Research Results

To achieve the research objectives, a variety of approaches were used, including systematic, activity-based, behavior-oriented, and general scientific methods (e.g., literature review, synthesis, generalization, and systematization).

We identify key themes, established theories, and gaps that current research seeks to address. There are also a variety of AI tools that integrate language learning.

An analysis of online platforms and applications was conducted [6].

This included integrating the tool into the educational program and evaluating its specific impact on learning outcomes. In addition, research was conducted on the relevance of learning materials and teaching strategies used with AI tools. This multifaceted approach aims to deepen our understanding of the relationship between AI integration, teaching materials, and teaching strategies used in the context of foreign language teaching in higher education.

The study reveals significant findings regarding the role of artificial intelligence (AI) in teaching foreign languages. Through the analysis of case studies, literature reviews, and practical applications, several key results emerged [7].

1. Enhanced Personalization and Adaptivity

AI-powered tools provide highly personalized learning experiences by analyzing individual learner data, such as language proficiency, learning pace, and specific areas of weakness. For example, platforms like Duolingo and Babbel use adaptive learning algorithms to tailor lessons to each user's skill level and progress. This personalization helps learners focus on areas that require improvement, resulting in more efficient language acquisition.

2. Improved Pronunciation and Speaking Skills

AI speech recognition technologies, such as Speechling and Google Speech-to-Text, demonstrate remarkable accuracy in evaluating pronunciation, intonation, and fluency. These tools provide instant, actionable feedback, allowing learners to practice speaking skills in real-time. Studies show that consistent use of AI-powered speech tools improves both confidence and accuracy in oral communication.

3. Increased Learner Engagement

Gamified learning features, such as those found in Duolingo, significantly enhance learner motivation and engagement. The use of rewards, challenges, and interactive exercises encourages consistent practice, which is critical for mastering a foreign language. Surveys indicate that learners using AI-enhanced platforms spend more time practicing compared to traditional classroom settings.

4. Real-World Application and Contextual Learning

AI chatbots, such as Mondly and Replika, enable learners to engage in realistic, context-based conversations. This interactive approach helps learners practice practical language skills, such as asking for directions or ordering food, in a risk-free environment. The study highlights that learners who use chatbots show greater confidence in real-world language application.

5. Data-Driven Insights for Teachers

AI provides educators with detailed insights into learner performance through data analytics. These insights help teachers identify common challenges, such as grammatical errors or vocabulary gaps, and design targeted interventions. For example, Intelligent Tutoring Systems (ITS) like Carnegie Learning empower teachers to create customized lesson plans that complement AI-driven learning.

6. Accessibility and Flexibility

AI tools offer unparalleled accessibility, enabling learners to study anytime and anywhere. Mobile applications and cloud-based platforms remove geographical and temporal barriers, making language learning accessible to a global audience. This flexibility is particularly beneficial for adult learners and professionals with tight schedules.

7. Challenges and Limitations

Despite their benefits, AI tools also face challenges. Learners and educators report concerns about:

- Lack of Cultural Nuance: AI translation tools, like Google Translate, sometimes fail to capture cultural context and idiomatic expressions.
- Over-Reliance on Technology: Excessive dependence on AI tools may limit the development of critical thinking and problem-solving skills in language learning.
- Teacher Training Needs: Effective integration of AI into language education requires adequate teacher training, which is often lacking.

8. Positive Hybrid Models

Research indicates that the most effective outcomes occur when AI tools are used in conjunction with traditional teaching methods. The combination of AI's adaptability and teachers' human expertise creates a synergistic learning environment that addresses both individual and group needs [8].

These findings underscore the transformative potential of AI in foreign language education, while also highlighting the importance of addressing its limitations to maximize its impact.

Accessibility and Flexibility: AI-powered language learning platforms have made English accessible to learners around the world. Online platforms provide on-demand access to learning materials, breaking down geographical barriers and allowing learners to study at their own pace. AI technology has also made it easier to create mobile apps that allow learners to learn English anytime, anywhere. These apps often offer offline capabilities, making them ideal for learners with limited internet access. Results indicate that AI-assisted learners showed improved pronunciation, vocabulary retention, and engagement. AI tools provided instant feedback and adaptive learning paths, catering to individual needs. However, students emphasized the need for human interaction to develop conversational fluency.

Conclusion

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 fun, effective, and efficient. In addition, AI technology supports teachers in providing personalized instruction, automating administrative tasks, and facilitating personalized learning experiences. As artificial intelligence continues to evolve, it has great potential to further transform English language education, empowering both students and teachers. By applying AI technology to English language teaching, we can open up new horizons for language learning and prepare people to thrive in an increasingly interconnected world.

Artificial intelligence (AI) plays a transformative role in the field of foreign language teaching by enhancing the learning experience and offering personalized, adaptive, and accessible solutions for learners. AI-driven tools, such as language learning apps, chatbots, and speech recognition systems, provide valuable opportunities for learners to practice language skills at their own pace and in real-life contexts. Furthermore, AI enables teachers to track individual progress, identify areas for improvement, and create more engaging and dynamic lessons. However, while AI can significantly aid in the learning process, it should be seen as a complementary tool rather than a replacement for human interaction, which remains crucial in language acquisition. By combining AI with traditional teaching methods, educators can create a more effective and inclusive learning environment that meets the diverse needs of students in the digital age. AI enhances language learning but should complement, not replace, traditional methods. A blended approach ensures well-rounded proficiency.

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РОЛЬ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В ОБУЧЕНИИ ИНОСТРАННОМУ ЯЗЫКУ

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Аннотация: Интеграция искусственного интеллекта (ИИ) в языковое образование преобразила процесс преподавания и изучения иностранных языков. В этой статье рассматривается ключевая роль ИИ в улучшении обучения языку путем предоставления персонализированного опыта обучения, интеллектуальных систем обучения и адаптивных

инструментов оценки. Приложения на основе ИИ, такие как чат-боты, распознавание речи и инструменты машинного перевода, позволяют учащимся практиковать языковые навыки в захватывающих реальных сценариях.

Эти технологии способствуют большей вовлеченности, улучшают произношение и улучшают приобретение словарного запаса. Кроме того, алгоритмы ИИ анализируют данные учащихся, чтобы адаптировать контент, выявлять слабые стороны и предлагать целевые вмешательства, обеспечивая эффективный прогресс для разных учащихся.

В статье также рассматриваются проблемы внедрения ИИ в преподавание языка, включая этические проблемы, доступность и необходимость подготовки учителей. Подчеркивая синергию между ИИ и людьми-преподавателями, это исследование подчеркивает потенциал ИИ для дополнения традиционных методов обучения, демократизации языкового образования и подготовки учащихся к глобальному общению во все более взаимосвязанном мире. Ключевые слова: искусственный интеллект (ИИ), персонализированное обучение, интеллектуальные системы обучения, распознавание речи, машинный перевод, чат-боты в образовании, тренировка произношения, образование на основе данных, образовательные технологии (EdTech), оценка на основе ИИ.

Ключевые слова: искусственный интеллект (ИИ), персонализированное обучение, интеллектуальные системы обучения, распознавание речи, машинный перевод, чат-боты в образовании, тренировка произношения, образование на основе данных, образовательные технологии (EdTech), оценка на основе ИИ.

ШЕТ ТІЛІН ОҚЫТУДА ЖАСАНДЫ ИНТЕЛЛЕКТІҢ РӨЛІ

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Аңдатпа. Жасанды интеллекттің тілдік білім беруге интеграциясы шет тілдерін оқыту мен оқу процесін өзгертті. Бұл мақала жекелендірілген оқыту тәжірибесін, интеллектуалды репетиторлық жүйелерді және бейімделген бағалау құралдарын ұсыну арқылы тіл үйренуді жақсартудағы жасанды интеллекттің негізгі рөлін зерттейді. Чат-боттар, сөйлеуді тану және машиналық аударма құралдары сияқты жасанды интеллектпен жұмыс істейтін қолданбалар үйренушілерге иммерсивті, нақты әлем сценарийлерінде тіл дағдыларын үйренуге мүмкіндік береді.

Бұл технологиялар көбірек қатысуға, айтылымды жақсартуға және сөздік қорды игеруге ықпал етеді. Сонымен қатар, жасанды интеллект алгоритмдері мазмұнды бейімдеу, әлсіз жақтарды анықтау және мақсатты араласуды ұсыну үшін студент деректерін талдайды, бұл әртүрлі оқушылар үшін тиімді прогресті қамтамасыз етеді.

Мақалада сонымен қатар тіл үйретуде жасанды интеллектті енгізу қиындықтары, соның ішінде этикалық мәселелер, қолжетімділік және мұғалімдерді оқыту қажеттілігі талқыланады. Жасанды интеллект пен адам мұғалімдері арасындағы синергияны көрсете отырып, бұл зерттеу Жасанды интеллекттің дәстүрлі оқыту әдістерін толықтыру, тілдік білім беруді демократияландыру және студенттерді өзара байланысы барған сайын жаһандық қарым-қатынасқа дайындау мүмкіндігін көрсетеді.

Түйін сөздер: жасанды интеллект (AI), жекелендірілген оқыту, интеллектуалды репетиторлық жүйелер, сөйлеуді тану, машиналық аударма, білім берудегі чатботтар, айтылымды үйрету, деректерге негізделген білім беру, білім беру технологиясы (EdTech), AI-қуатындағы бағалау.