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THE ROLE OF AI IN FOREIGN LANGUAGE TEACHING

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Abstract: As globalization proceeds, the need for multilingual competence has grown significantly in educational, commercial, and international diplomatic activities. While traditional classroom-based language learning brings structure, it is often missing localization, flexibility, and immediacy. The availability of Artificial Intelligence (AI) language learning tools has transformed the traditional methods available to foreign language education while enhancing its engagement and providing better personalized opportunities. Natural Language Processing (NLP), speech recognition, intelligent tutoring systems, and virtual assistants now create an opportunity for personalized and rapid feedback language learning. The use of artificial intelligence (AI) as a tool to transform education, envelope learning practices, and personalize engagement represents an evolution in language acquisition practices by allowing for personalized feedback, engagement, and flexible engagement with learning resources.

The article explores the evolution of language teaching – also how AI has created a shift in traditional pedagogy. It centres around key tools like NLP for text analysis, platforms such as ELSA Speak for evaluating pronunciation, and chatbots for speaking practice; the article argues how these can reshape pedagogical outcomes. The article also explores intelligent tutoring systems which adapt to the individual learner's needs, as well as content creation tools, which use AI to create personal exercises, and assessments. While AI provides many benefits concerning personalized learning paths, autonomy, learner agency, accessibility, and inclusion, it raises ethical questions, and issues around data privacy, limitations in technology, and teacher training.

Ultimately, this article acknowledges that AI is a powerful potential partner to human educators, rather than a substitute. It advocates for responsibly integrating AI into education to carefully consider the pedagogical and social implications of this technology as it develops, with a deliberate attention to aspects of our humanity needed in language teaching. Reflecting on these points early in the piece, the author reinforces that the future of foreign language education depends on a dynamic relationship between AI technological advances and long-standing teaching practices.

Keywords: Artificial Intelligence (AI), Natural Language Processing (NLP), ELSA Speak, Limitations in Technology, Pedagogical and Social Implications

Introduction

As the world continues to globalize, the practice of multilingualism becomes increasingly valuable. Discovering how to communicate with people from different cultures can lead to cultural, local, national, international, and global chances for opportunity. Knowing a second language is no longer about the "nice to have", it is a need in the areas of international trade, commercial diplomacy, education, and migration. Additionally, while classroom-based language learning has its advantages and disadvantages, it cannot always meet the learner's needs in the areas of personalization, flexibility, and immediacy of feedback.

While artificial intelligence (AI) has already made substantial impact in industries and markets like health, finance, and travel, AI is making a notable impact in education (Mhlanga, 2021). The programming of AI is providing new opportunities to integrate agents to traditional teaching/learning environments through adaptive learning systems. AI could fundamentally shift the traditionally felt and expressed elements of knowledge in the best of ways. In foreign language education, have reached a tipping point that exists simultaneously between theory and AI technology to improve a language learn's overall experience from a learning perspective in engagement, personalization, and efficacy.

Artificial intelligence (AI) technologies – natural language processing (NLP), machine learning, speech recognition, and intelligent tutoring systems – have solved some of the most longstanding challenges that have faced language education: access to native speaker feedback, the inconsistent nature of feedback, and maintaining learner motivation. AI is creating new potential for language education by supporting instructors, facilitating personalized delivery of content, providing real-time conversational practice, and allowing for more nuanced error correction; and in many ways AI is completely reinventing the way language is acquired (Kohnke et al., 2023).

The present article looks at the groundbreaking impact of artificial intelligence in foreign language teaching by exploring the historical context of language teaching, examining current AI-based tools and approaches, and analyzing the advantages and disadvantages of AI in this context. The article seeks to provide a holistic overview of how AI is changing the landscape of language learning with case studies and implications for the future, while also recognizing the ethical and practical issues educators and organizations must consider.

Discussions: Evolution of Language Teaching and Introduction of AI

Traditional language teaching methods

Artificial intelligence (AI) technologies – natural language processing (NLP), machine learning, speech recognition, and intelligent tutoring systems – have solved some of the most longstanding challenges that have faced language education: access to native speaker feedback, the inconsistent nature of feedback, and maintaining learner motivation. AI is creating new potential for language education by supporting instructors, facilitating personalized delivery of content, providing real-time conversational practice, and allowing for more nuanced error correction; and in many ways AI is completely reinventing the way language is acquired (Kuddus, 2022).

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Emergence of Artificial Intelligence (AI) in education

While traditional educational methods and technology have progressed significantly, foreign language education continues to meet persistent and new challenges. While traditional methodologies such as memorisation, grammar drills, and classroom exchanges contain a lot of merit, they often do not match the varied learning styles and speeds of modern language learners (Nazari et al., 2021). A teacher-centered perspective often limits learner autonomy. Many learners are becoming disengaged in the language learning classroom due to classes being too large or too short to meet their needs.

With the emergence of AI, however, possible technological solutions can also introduce new challenges. Despite the potential for AI to promote breadth of learning while providing efficiencies and customisation for the learner, access to reliable broadband and devices is a practical barrier for many students and institutions (Pokrivčáková, 2019). Further, all AI-based learner platforms often struggle with contextual meaning in idiomatic expressions and culturally salient aspects of language which are vital for authentic language learning. A reliance on AI technologies can also lead to psychological disengagement for both the learn-

er and teacher from language learning where communication, and the nuance of interpersonal interaction, is essential to developing communicative competence.

In education, the implications of data collection methods, privacy of student data, algorithm-based bias, and ethically responsible learner information utilization raise additional questions about utilisation of AI in mainstream education (Rasool et al., 2025). Many teachers may have an unwillingness to adopt AI for pedagogical initiatives due also to poor or no teacher training; or, they are fearful of being replaced by technologies that they may not understand. In summary, the barrier to adding AI to education presents imperative challenges to developing socially responsible practices that include emergent AI technologies, while ensuring pedagogical integrity, as well as human-centric learning.

Exploring the Use of Artificial Intelligence in Foreign Language Teaching

The use of AI technology to teach foreign languages is rapidly advancing in educational metauniverses. With developments in speech recognition, machine translation, and natural language processing, students are now obtaining much improved learning outcomes (Mustafayeva and Komiljonova, 2024). However, there are still areas of language expression and interpersonal communication where human educators may never be replaced by AI. Some students may also want a human connectedness, and individualized teaching styles that mechanized or robotic teaching will not provide. AI also contains a variation of reliability and accuracy that can be questionable which may lead to wrong feedback, or a misrepresentation of facts. Educators will value a combination of AI and humanistic approaches that will promote productive language learning outcomes. Machine translation, natural language processing systems, chatbots, and facial recognition technologies - may assist students in their comprehension and efficiency (KUMAR, 2025). There are however challenges with the delivery of personalized language learning, including inability for AI to be a human teacher, unavailable humanized pedagogy, technical breakdowns, and safety issues.

Limitations of teachers, student engagement, and technology personalization

When first introduced technology into language teaching, the outcomes were somewhat mixed. There was a significant lack of technical training for many teachers and that meant there was either under-use or mis-use of the technology on the part of teachers and students. Teachers using new pedagogies were limited by their newness and learners had difficulty engaging in these new learning environments – especially if the tools were non-interactive or non-

culturally relevant (Fullan, 2013). There was simply no accommodation of the extent of variation in learners' levels of English proficiency, learning speeds, or goals in a generic, SKU-based, content delivery system. Scalability was often a trade-off for personalization, which is essential in language learning. Their limitations pointed to the need for more sophisticated systems that respond in real time to teacher facilitation and learner requirements, thus paving the way for artificial-intelligence-based systems.

AI Tools and Techniques in Language Education

Natural Language Processing

Natural Language Processing (NLP) is an effective approach for improving educational settings by facilitating natural language acquisition (Alhawiti, 2014). It addresses a wide range of educational problems and issues, including those relating to society and culture. NLP can help teachers, students, authors, and educators with their writing, analysis, and assessment procedures. It is widely used in a variety of educational settings, including research, science, linguistics, e-learning, and evaluation systems. The purpose of this qualitative study is to better understand natural language learning processing and how to apply NLP tools in educational settings. The study examines secondary sources and theories to gain a better understanding of the natural language process and its application in education. Effective linguistic tools such as grammar, syntax, and textual patterns are used to learn and assess texts.

NLP is widely used in a variety of fields, including laboratories, information sciences, e-learning, and education (Borakati, 2021). It helps students gain a broad understanding of the cognitive and psychological perspectives that are important in language acquisition. NLP can be implemented in a variety of ways, including classification and categorization of different sources, allowing students to focus on course material and content, and analyzing syntactic and morphological features. NLP is increasingly being used in education to improve the educational system through efficient policy implementation and the use of advanced technologies. Developers can use tools like Text Evaluator and Language Muse to assess source material for new reading comprehension passages and items. NLP is also useful for data mining, information retrieval, and quality assessment.

Speech Recognition and Generation: Pronunciation feedback apps (like Elsa Speak)

Pronunciation in English is key to interacting with speakers, but British and American accents make it difficult. Teachers are critical to teaching pronunciation, but students' teachers have time and interest that inhibit it to be continue. The ELSA Speak app uses automatic speech recognition to help improve pronunciation. This study uses classroom action research (CAR) and the collaborative process to utilize the app to assist English Education students at Nahdlatul Ulama University of Yogyakarta (Kholis, 2021). The results of all findings will support students' improvement of pronunciation skills and their English language skills.

The study explores how the ELSA Speak App can improve the pronunciation in English language students. With a multitude of tasks and materials in the ELSA Speak App, students are engaged and improve their pronunciation. This study found that Automatic Speech Recognition (ASR) proved superior pedagogically for teaching pronunciation as an instructional strategy than traditional approaches. Through an active process, students learn, and engage with the English language and vocabulary is also being covered using the ELSA Speak App. While have an obligation as language teachers to make technology-based choices based on how the students are ready to use it, and how the app is designed and deployed.

Virtual assistants, chatbots: Conversation role-playing, 24/7 support (Duolingo, ChatGPT)

The following section addresses the ways in which chatbots and virtual assistants can enhance the education of special education students in an educational setting. Additionally, it stresses the importance of understanding AI before applying it in education by identifying challenges, opportunities, and future trends. Thanks to NLP chatbots can communicate with students, develop empathy, and customize their learning settings. Education requires ethical considerations related to data privacy. Emerging AI trends include the rapidly changing capabilities of AI such as integrating with new technologies and social aspects such as emotional intelligence and empathy. Responsible and equitable production of AI in education depends on regulations and policies.

Intelligent Tutoring Systems (ITS): Adaptive learning, performance analysis, feedback mechanisms

Intelligent tutoring systems (ITS) research seeks to provide high quality, one-on-one instructional suggestions better than conventional computer-aided instruction, and as good as a good human tutor, as well as create and evaluate cognitive models of instruction (Alkhatlan and Kalita, 2018). There are four interacting elements contributing to ITS's "intelligence" with regard to providing ITS with intelligent functions: domain knowledge used in the knowledge base, the student model displaying the current state of knowledge of a student, the pedagogical module containing pedagogical suggestions located in the student model, and the user interface allowing the ITS-student dialogue. There are many possible explanations as to how we got here, from the many interests and priorities of researchers, the lack of evaluative studies that show better effectiveness than traditional approaches, and the theoretical shortcomings of the student model. Most of the existing approaches are more applied, and have made user interfaces that adopt theory-dependent methods of instruction but rely on a suspect student model.

AI in Content Creation: Automatic generation of exercises, vocabulary quizzes, personalized content

Generative AI has begun to transform education in ways that automate the creation and distribution of content such as textbooks, quizzes, multi-media content and interactive learning materials (Al-Smadi, 2023). With its applications, accuracy, bias, privacy and over-reliance, and access/equity can be improved. However, there are long-term benefits of AI to be harnessed, if it operates within a framework that respects privacy with data governed by regulation. It must teach creativity and critical thinking, with access to teachers and students receiving training. Generative AI in education will lead to personalized learning, utilizing AI-enabled assessment, and immersive, interactive and integrated education. However, it is important to keep in mind equity, privacy and governance for ethical AI use in education. Partnerships with human educators and responsible AI governance is vital for the future success.

Benefits of AI in Foreign Language Teaching

Artificial Intelligence provides multiple transformative advantages that remedy long-standing deficiencies in foreign language teaching. One of the most significant advantages is personalization (Chen, 2025). AI enabled platforms can

personalize lessons dynamically based on learner data i.e., speed, reliability and academic history. This will ensure that every student is presented with content that is suited to their proficient level and academic style, which enhances skill acquisition. AI can even suggest specific tasks and vocabulary based on identified areas of student weakness resulting in added practise time and improved results. AI enabled experiences on mobile and web platforms allow learners to engage their language skills i.e., reading, writing, and speaking when and wherever they wish. This flexibility is an important value-added feature for adult learners, working professionals and students from remote areas. In addition, AI tools often have speech-to-text and text-to-speech functions increasing access and participation for learners with visual, auditory or mobility disabilities.

Gamification, interactive simulations, and immersive language environments are only some of the many AI tools that increase motivation and engagement. Programs and applications like Duolingo and Mondly use points, badges, and a gamified structure to keep learners engaged (Yadav et al., 2025). In addition, real-time feedback systems help keep learners motivated and focused on correcting mistakes when they happen. Finally, AI generates data-driven insights for teachers, as well as institutions. Dashboards enable educators to track learner progress, identify students who are struggling early, and change lesson plans, if needed. Aggregated data allows institutions to examine teaching effectiveness as well as curriculum effectiveness, which leads to more informed decisions. They also implement antecedent action to act to improve teaching methods.

By realizing these advantages, AI not only facilitates but also continues to enhance quality, efficiency commitments, as well as mexecution in foreign language learning throughout a variety of learning contexts.

Challenges and Limitations

Reliance on Technology: Less Human Interaction

AI-transcription tools may reduce the human aspect of language learning. Automated systems often forego real-time conversation, emotional context, and spontaneous cultural interaction that are essential to becoming fluent. This may mean someone might understand a language mechanically as opposed to being competent in its use.

Limitations in Language Nuances and Cultural Contexts

AI often has difficulty with idioms, regional varieties, humor, and meanings embedded in culture. These difficulties could yield inaccurate translations

or incomplete comprehension especially for learners who are not familiar with the culture of the target language itself.

Issues of Data Privacy, Ethics, and AI Bias

AI uses a lot of learner data to inform and potentially to assess learning. If learners are not properly protected, there are also questions around privacy and consent. Also, there is the issue of algorithmic bias, where culturally aware cultural content comes from negating previous bias in the AI. Algorithms can produce inaccurate assessments that are also distorted culturally.

Digital Divide: Unequal Access to AI Tools

Not all learners have equal access to AI-power education. Learners in rural settings or low socio-economic status do not often have the infrastructure, devices or digital literacy to wield these innovations.

Real World Applications

Foreign language programs are currently benefitting from artificial intelligence (AI) in many schools and universities around the world. Carnegie Mellon University and Beijing Foreign Studies University (Beijing Language and Culture University) have employed AI chatbots, AI speech recognition, adaptive learning software, and AI gamified language apps to personalize instructional and enhance learner engagement. Language learning enrollment is being enriched by products like Duolingo, Babbel, LingQ and others that are used regularly in classrooms, adding interactive exercises and instant feedback to a traditional learning experience (da Direita Calheiros, 2024).

Impact studies indicate that benefits can be realized by using AI. For example, studies from South Korea indicated that students using AI-supported language learning apps significantly improved their vocabulary retention and pronunciation than students relying solely on traditional methods. Teachers also identified a reduction in grading and improved insight into the performance of individual students, as AI dashboards were used to analyze work. In underserved and remote communities, AI has been important to ensure access to language education. AI-supported mobile learning programs have been used to administer language owned lessons to students who were outside of classrooms in rural India and sub-Saharan Africa through mobile devices in both online and offline capabilities as well as support of regional languages.

Future Prospects

The forthcoming application of AI in foreign language teaching should result in increased convergence and creativity. Advancements in natural language processing (NLP) and even emotional AI will facilitate systems that better understand not just tone but context and cultural nuances, and provide more humanlike engagement. Virtual reality (VR), or augmented reality (AR) powered by AI, will allow for realistic full language environments, and learners will be able to practice language use in real-life, simulation environments. AI will further improve speech recognition and, therefore, pronunciation exercises. As AI becomes better aligned with ethical positionings, there will be a clearer focus on transparency, diversity, and data security. In line with advances to infrastructure, there will emerge opportunities for personalized, whole-language learning, even in remote or developing areas. Ultimately, learners from all regions will receive comprehensive language learning experiences, which will help to avert educational inequalities, worldwide.

Conclusion

AI is altering foreign language teaching by facilitating personalized, accessible, engaging, and respectful learning opportunities. Even as it increases efficiency and accessibility, we must also answer questions about reducing human interaction and the privacy of learner data, and inequitable access for some learners, to ensure ethical and effective learning. As AI technology and infrastructure continues to improve, there is hope for developing even more nuanced, culturally inclusive, and interactive language learning environments. Although it will be important to explore the power of collaboration between AI tools and human educators, developing meaningful communication skills and preparing all learners for success in an interconnected world will be paramount.

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