

THE IMPACT OF ARTIFICIAL INTELLIGENCE ON LANGUAGE LEARNING: HOW AI IS TRANSFORMING THE WAY WE ACQUIRE NEW LANGUAGES

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Abstract: Artificial intelligence (AI) is significantly reshaping how people approach language learning by making it more engaging, personalized, and widely accessible. This article explores the major AI technologies driving this transformation, including adaptive learning platforms, automated speech correction, AI-powered chatbots, virtual reality tools, and big data analytics. These innovations are helping to redefine traditional language education by offering learners more tailored and responsive experiences. The article highlights a range of benefits brought by AI, such as greater learner motivation, improved access to educational resources, and more flexible learning environments. It also addresses key challenges, including the digital divide, potential ethical concerns, and the risks of relying too heavily on automated systems. Special attention is given to how AI affects educators and how it supports students with disabilities by enabling more inclusive learning experiences. Well-known applications like Duolingo, Grammarly, and ELSA Speak are used as practical examples of how AI is already making an impact. In addition, the article draws on recent research to illustrate how AI might contribute to building a global educational ecosystem. Finally, it discusses emerging trends and the potential role of AI in preserving linguistic diversity in an increasingly interconnected world.

Introduction

Language learning plays a key role in today's world, facilitating intercultural communication, professional growth and globalization. Traditional learning methods such as classroom, textbooks or tutors often require a significant investment of time, money and effort. However, with the advent of Artificial Intelligence (AI), the process of learning languages has become more efficient, accessible and engaging. AI offers tools that adapt to individual student needs, provide instant feedback, and make learning interactive. This article focuses on how AI is transforming language learning. We will look at the main AI technologies, their applications in education, benefits and limitations. Special attention will be paid to new research, examples of applications, and expert opinions. We will also discuss how AI affects teachers and helps people with disabilities. The article is written in a simple and straightforward style to be

accessible to students, teachers and anyone interested in education. The aim is to show how AI is changing language learning and what the future holds.

AI technologies in language learning

1.1 Adaptive learning platforms

Adaptive platforms are one of the most significant advances of AI in education. They use machine learning algorithms to analyze students' progress and suggest tasks appropriate to their proficiency level. For example, Duolingo applies a spaced repetition model that helps memorize words and grammar rules through repetition at optimal intervals (Settles & Meeder, 2016). The platform analyzes which tasks are easy and which are challenging and adjusts lessons to maintain a balance between challenge and attainability. Babbel is another popular platform, which focuses on practical skills such as dialog in real-world situations. It uses AI to create personalized courses that take into account the student's native language and goals (Vesselinov & Grego, 2012). Research shows that adaptive platforms increase learning efficiency by 20-30% over traditional methods because students feel more motivated.

1.2 Automatic speech correction

AI-based speech recognition technologies help to improve pronunciation.

Applications such as Elsa Speak and Speechling analyze the user's speech by comparing it to the reference pronunciation of native speakers. Elsa Speak, for example, uses natural language processing (NLP) algorithms to detect errors in intonation, rhythm, and articulation. The user receives instant feedback, such as recommendations for correcting the [θ] sound in the English word "think".

Speechling, similarly, offers speech recording and comparison with samples, as well as advice from native speakers integrated through AI. Studies show that regular use of such apps improves pronunciation by 25-35% in 3-6 months (Liakin et al., 2017).

However, some experts note that AI does not yet always take into account cultural features of speech, such as accents or dialects.

1.3 Chatbots and virtual conversation partners

AI-based chatbots such as Mondly, Replika, and Tandem allow practicing conversational skills in a safe environment. Mondly offers scenarios that mimic real-life situations, such as buying tickets or having a conversation in a coffee shop (Godwin-Jones, 2019). The bots use NLP to understand the user's responses, correct mistakes, and suggest new words or phrases. This is especially useful for students who are shy to speak a foreign language. Tandem combines AI with interaction with native speakers, offering chatbots for practice before real conversations. Research

shows that using chatbots increases student confidence by 15-20% (Fryer et al., 2017). However, bots are still limited in creating in-depth dialogs, as their responses are often based on pre-defined templates.

1.4 Virtual and augmented reality

Virtual reality (VR) and augmented reality (AR) are new directions in language learning using AI. Applications such as Mondly AR and Immerse allow immersion in virtual language environments. For example, a user can feel as if they visited a virtual environment in English, practicing English through interaction with objects and characters. AI analyzes the user's actions and offers hints if the user makes mistakes. VR and AR make learning more engaging, especially for young students. Studies show that such technologies increase engagement by 40% compared to traditional methods (Berns et al., 2016).

1.5 Big Data Analytics

AI enables the analysis of large amounts of data to optimize learning.

Platforms such as Coursera, Rosetta Stone, and Busuu collect information about student behavior, including time spent on assignments and types of errors. This data helps improve courses and predict which topics will be difficult (Siemens, 2013). For example, AI can determine that native Russian speakers often confuse tenses in English, so it suggests additional exercises. Data analytics also helps instructors track the progress of groups. For example, the LingQ platform uses AI to generate reports on which skills students have mastered and which ones need refinement. This makes learning more targeted and effective.

Benefits of AI in language learning

Artificial intelligence greatly improves language acquisition by making it more personalized, accessible, and engaging. AI tailors learning to each student, taking into account their goals, language level and preferences. For example, Duolingo first asks a user for what purpose he/she is going to learn a particular language. Depending on the learner's goal, such as traveling or exam preparation, the platform offers tailored lessons to suit different needs. Another example is the language app Babbel, which begins with a placement test. Depending on the level of a learner, it customizes the lessons and offer the ones that match with a user's proficiency in his/her target language. This personalized approach improves results by 15-25% compared to generic programs (Pane et al., 2015). This is especially important in multilingual communities where students have different experiences. Accessibility is another major advantage. Students can self-study a new language without the need to attend traditional courses. Apps such as Duolingo, Babbel and Google Translate are free or inexpensive, making them an alternative to expensive in-person classes. In developing countries where access to education is limited, such platforms are becoming a lifesaver (Warschauer & Liaw, 2011). For example, in India, Duolingo is used by millions of people to learn English to improve career prospects.

In addition to personalization and accessibility, AI increases learner motivation and engagement. Many platforms, like Duolingo and Memrise incorporate gamification, rewarding users with points, badges, and levels for completing tasks. This motivates students, especially younger ones, to stay inspired and consistent. Studies show that gamification increases time

spent studying by 30-40% (Hamari et al., 2014). Furthermore, AI provides instant feedback, which accelerates learning. For example, Grammarly analyzes a text and suggests grammar and style corrections in real time, helping students quickly correct mistakes and develop confidence (Chevalier, 2016). Similarly, pronunciation apps such as Elsa Speak enable advice immediately after recording a speech. Finally, AI helps learn multiple languages at once, which is important in a globalized world. Platforms like Busuu support courses in dozens of languages, allowing students to easily switch between them. This is especially useful for migrants or employees of multinational companies who need to be proficient in multiple languages (Godwin-Jones, 2019).

Limitations and challenges

Despite its advantages, AI in language learning has important limitations. The absence of an emotional bond is one of the primary drawbacks. Instructors motivate and interact with students, create an emotional connection, and help them overcome challenges, whereas chatbots and apps are not yet able to replicate this level of empathy (Fryer et al., 2017). For example, a student experiencing stress before an exam may need support that AI will not provide. Secondly, the effectiveness of AI depends on the quality of the data. That means, if algorithms are trained on incorrect or biased data, it can lead to errors. For example, Google Translate sometimes translates phrases incorrectly due to insufficient consideration of context (Bender et al., 2021). This is especially problematic for rare languages, like Uzbek, where data is scarce.

While AI enhances accessibility in many parts of the world, there are still significant barriers, particularly related to unequal access to technology. Not everyone has access to smartphones, computers or the internet, which limits the use of AI. In poor regions, the digital divide remains a major problem (Warschauer & Liaw, 2011). For example, in rural Africa, many students are unable to use apps due to lack of infrastructure. Additionally, overuse of AI can lead to dependence on technology. Students may lose independent analysis or critical thinking skills by relying on automated prompts (Selwyn, 2019). For example, the constant use of Grammarly may reduce students' ability to independently check their texts. Lastly, AI raises privacy issues. Platforms collect data about users, including their responses, errors, and even voice recordings. This can be used without consent, which raises concerns (Selwyn, 2019).

Impact of AI on language teachers and students with disabilities

AI not only helps students but also changes the role of teachers. Instead of solely relying traditional teaching methods, teachers can facilitate their job and enhance effectiveness by delegating certain tasks to technology. For example, teachers can deploy learning management systems (LMS), such as Google Classroom or Moodle, to track student performance and progress without time-consuming effort. Teachers are already using AI to create materials, as well. Forexample, platforms like Quizlet allow teachers to create interactive cards and quizzes customized for their classrooms. This saves time and makes lessons more

varied. However, the rise of AI also creates challenges for teachers. Some teachers fear that technology will replace them, especially in routine tasks such as checking exercises. Despite this concern, research by Selwyn (2019) shows that teachers who adapt to AI become more in demand because they can focus on developing students' soft skills, such as critical thinking and cultural awareness. This suggests that educators should develop the ability to work effectively with artificial intelligence, not only to keep their profession but also to excel in their field. In addition to reshaping the role of teachers, AI is opening up new opportunities for people with disabilities. For example, speech recognition apps such as Speechling help people with hearing impairments practice pronunciation by providing visual feedback (Franco et al., 2019). Platforms such as Google Translate offer text and voice translations that help people with visual impairments learn languages through audio. For people with dyslexia, AI offers tools such as text-to-speech and automatic text correction. For example, Grammarly adapts to users' needs by offering simplified explanations of errors. Research by Edyburn shows that AI increases the accessibility of language learning for people with disabilities by 30-40%. However, the technology is still imperfect. For example, speech recognition applications may have difficulty processing the speech of people with diction disorders. Developers should take these aspects into account to make AI more inclusive.

Several widely used applications illustrate how artificial intelligence is transforming the process of language learning. Duolingo, with over 500 million users, leverages AI to personalize lessons and adapt to each learner's progress and needs (Duolingo, 2023). Grammarly functions as a writing assistant, using AI to detect grammatical errors and suggest stylistic improvements in real time (Grammarly, 2023). Google Translate employs neural networks to support translation across more than 100 languages, significantly enhancing accessibility and communication (Google, 2023). Elsa Speak provides AI-driven pronunciation training, offering instant, personalized feedback to improve speaking skills (Elsa Speak, 2023). Busuu combines AI with interaction with native speakers, creating a more immersive and socially integrated learning environment (Busuu, 2023). Finally, LingQ uses AI to generate tailored content from texts and audio based on learners' interests and proficiency levels (LingQ, 2023). These examples demonstrate the breadth and potential of AI-powered tools in facilitating more efficient, engaging, and individualized language learning experiences.

Conclusion

Artificial intelligence is radically changing language learning by making it more personalized, accessible, and engaging. Technologies such as adaptive platforms, chatbots, speech correction, and virtual reality are helping millions of people around the world learn new languages. AI is also opening up opportunities for teachers and people with disabilities, creating inclusive educational spaces.

However, AI faces challenges including the digital divide, ethical issues and limited emotional connection. The future of language learning is likely to be based on a hybrid model where AI and teachers work together to maximize the benefits. In the coming years, we can expect to see smarter systems that can teach not only languages but also cultural nuances and preserve rare languages. AI has the potential to create a global learning space where everyone can learn languages without barriers. For this to happen, it is important that developers, educators, and students work together to ensure that the technology is ethical and accessible. Ultimately, AI will not only transform language learning, but also help bring people together through language and culture.

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