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AI TECHNOLOGIES AND APPLICATIONS FOR FOREIGN LANGUAGE LEARNING

Artificial intelligence (AI) has rapidly advanced in recent years and its applications are becoming increasingly widespread. Early AI research concentrated on creating rule-based systems, which carried out tasks according to a set of established rules. The development of machine learning algorithms allowed AI systems to learn from data and enhance their performance over time starting in the 1980s. Significant progress has been made in generative artificial intelligence (GAI) development in recent years as a result of the emergence of deep learning techniques like neural networks. AI has come a long way in the last few years. Business, management economics, and education have shown considerable interest in the concept of GAI [1].

The article reviews the literature to study the use of AI in language education and to provide an understanding of the opportunities and challenges associated with the use of GAI in education.

Currently, there is large number of definitions of the term "artificial intelligence". The term "artificial intelligence" was first used by John McCarthy in 1956. McCarthy gave the following definition: "It is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence." [2]. According to the Encyclopedia Britannica, AI is the ability of computer systems to perform tasks that normally require human intelligence. From a technical perspective, AI is a computer technology that enables computer systems to simulate human intelligence. It is changing many aspects of education and is gradually being introduced to language education.

Public interest in AI has grown substantially as a result of recent public access to Large Language Models and chatbots that allow users to interface with LLMs. A chatbot, also known as a virtual, dialogue and conversational assistant, is a software application that interacts with users via chat and stimulates human conversations by asking and answering questions via text or audio. These generative AI tools afford individuals with the ability to instantly generate writing on any topic by inputting a simple prompt [1].

One of the areas in which AI has been gaining significant attention is the chatbot industry with ChatGPT. ChatGPT was created in 2018 by OpenAI. It is agenerative model built on the transformer architecture that enables the production of natural-sounding text, and it is a tool that has acquired considerable popularity. ChatGPT is a language model that uses deep learning and machine learning algorithms to generate text-based responses in a conversational manner by producing human-like text. Numerous prominent business leaders, including Bill Gates and Elon Musk, emphasize that GAI and ChatGPT "would alter our work and daily lives", indicate and argue that ChatGPT "impact researchers' work" and "transform our education". While ChatGPT and GAI have the potential to revolutionize they also raise significant doubts and questions about their potential effects on society, including ethics, privacy, and security [1].

The public discourse surrounding GAI is mostly positive, but in the education sector there is serious concern about academic integrity and plagiarism. Some schools have responded by banning the technology outright. Jenna Lyle, the deputy press secretary for the New York public schools, said in a statement: "Due to concerns about negative impacts on student learning, and concerns regarding

the safety and accuracy of content, access to ChatGPT is restricted on New York City Public Schools' networks and devices. While the tool may be able to provide quick and easy answers to questions, it does not build critical-thinking and problem-solving skills, which are essential for academic and life-long success". Although a few schools have banned ChatGPT and similar tools, many have not, displaying confidence that their institution's academic integrity policy is robust enough to accommodate the new technology [3].

Interest in chatbots is rising due to their potential to support Foreign Language learning in interesting ways. For formative writing tools like Grammarly or Criterion are commonly used to provide corrective feedback during the revising and editing phases of the writing process. This includes basic grammar, spelling, and punctuation, or more advanced analytics such as word counts and readability. Chatbots can also have human-like appearances.

The Replika chatbot has social life-like characteristics, which can emotionally involve users in the experience using text, audio, and other visual cues. The main advantages of a chatbot are a high degree of personalization and the possibility of informal conversation. Another solution is the Andy chatbot, which can not only support the conversation, but also give the user certain tasks, and then check their completion.

The Mondly chatbot was designed as an additional component of a language learning platform. A chatbot has unlimited patience and can instantly respond to requests using natural language. It can lower learners' anxiety and encourages self-correction if mistakes are made, supports willingness to communicate and focuses on specific topics and areas of interest, and does not require a human teacher or interlocutor. The chatbot also has a large number of colloquial phrases and figures of speech. Students can practice aspects of language that they might not feel comfortable practicing with a human or practice recently learnt language. The EFHello application combines all of the above functions, which in addition can also analyze the user's voice messages, providing the ability to work on pronunciation [4].

There are positive results when using a chatbot. The use of a chatbot prior to a group discussion leads to an increase in student output and supports the awareness of critical thinking skills. Using an AIbot via text or voice prior to completing speaking tasks leads to improved speaking performance. The voice-based chatbot leads to greater performance than the text-based chatbot and the face-to-face condition. It is argued that if a chatbot has the ability to perform communication strategies, it can encourage willingness to communicate [4]. It is important to remember that chatbots do not replace full-fledged communication with native speakers, but can be an excellent addition to traditional learning methods.

However, negative results have also been reported in the literature. There is a concern about the novelty effect of using chatbots to support language learning. Some researchers criticize chatbots for being too mechanic in their behaviour and lacking important communication components. ChatGPT is trained on massive amounts of all sorts of information and data scraped from the internet, which raises concerns regarding the reliability and accuracy of these data [1].

Recent studies have reported that language learners show positive attitudes towards AI tools for language learning. AI can provide instant feedback and flexibility in learning environments. By using AI, learners can become more independent in their learning and have more opportunities to learn outside the classroom. But they need to be prepared to use AI technologies and applications and to support learning experiences in specific contexts. They also need to ask the question of how to deal with human skills such as critical thinking, collaboration, and creativity in their practices in AI environments.

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