Exploring GenAI as an Alternative to Traditional Language Learning

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ABSTRACT

This article examines the effects of Generative Artificial Intelligence (GenAI) in English as a Foreign Language education on feedback, authentic and autonomous learning, and learner motivation. The article specifically inquiries into how GenAI-powered tools, such as large language model-based chatbots, affect the personalization of feedback and the implications of such effects on traditional written and oral feedback. The article concludes by highlighting the effectiveness of chatbots in enhancing motivation, ease of navigation through learning topics, counseling, tutoring, and autonomy, whilst noting the risks associated with potential data security vulnerabilities and ethical concerns that can result from the implementation of GenAI-powered tools in traditional educational settings.

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INTRODUCTION

The earliest attempts to define Artificial Intelligence (AI) date back to the 1950s, and the development of AI initially focused on symbolic reasoning. Although AI is difficult to define precisely, it is generally understood as a functioning system capable of human-like performance, including perception, reasoning, decision-making, and task execution (Shneiderman, 2020). Alan Turing, the originator of this field, proposed the idea that machines could imitate human thought. His well-known "Turing Test" raised the critical question of whether a machine could act like a human being. Turing's contributions appeared at a critical moment, even before computers were tasked with understanding natural human languages, playing expert-level chess, recognizing visual scenes or controlling robots in deep space (Luger & Chakrabarti, 2016). Generative Artificial Intelligence, also known as GenAI, is one of the subsets of AI. The term corresponds to computational techniques that are utilized for generating text, visuals, or audio by systematically training novel and meaningful data (Feuerriegel et al., 2023).

Despite its groundbreaking origins, the field of AI has experienced significant challenges and periods of stagnation, which is remembered as periods of 'AI Winter' for nearly sixty years (Hirsch-Kreinsen, 2023). AI has finally managed to make a comeback in recent years. With the introduction of Alpha Go in 2015 and ChatGPT in 2022, AI has revolutionized how people engage with intelligent technologies in their daily lives around the world (Nah et al., 2023). Because of AI's rapid integration into humans' everyday lives, it has been metaphorically called the new oil (Holmes & Tuomi, 2022), which indeed indicates its indispensability regarding the modern world's consumer habits. When the overuse of oil and its effects on Earth are considered, the term may also indicate that AI must be carefully consumed. When it is considered that education has a relationship with almost every discipline, its fast-growing interaction with AI is not surprising. One of the fields that has inevitably been affected by the AI revolution is education. This partnership has emerged as a new subfield of AIED (Artificial Intelligence in Education). Since AI progresses faster than anticipated, it is crucial to understand the trends and developments in technology and education to stay current. In particular, understanding these trends is essential for educators and policymakers to integrate AI solutions effectively by ensuring that they align with pedagogical goals and ethical considerations (Guo et al., 2024).

AIED aims to utilize AI-powered technologies to enhance the quality of education, focusing on addressing challenges such as catering to diverse learning styles, enhancing accessibility for underserved communities, and promoting equity in education worldwide. Moreover, AIED focuses on developing intelligent tutoring systems, enhancing collaborative learning through AI-powered tools, and improving the assessment of student progress by using predictive analytics. Since AI is an integration of multiple complex technological systems, it cannot be thought of or explored independently. From this perspective, it resembles language learning, where the four skills (listening, reading, speaking and writing) are interdependent. Therefore, in GenAI, there are some significant AI-related terms that make our understanding better, both in terms of the process in general and language learning. They can be named Large Language Models (LLM), Machine Learning (ML), Chatbots, Deep Learning (DL), and Natural Language Processing (NLP).

Large Language Models (LLMs) are neural networks that process and generate natural language text. They are the foundational architecture for generative AI applications, leveraging pre-trained knowledge from vast datasets and billions of parameters (Feuerriegel et al., 2023). Machine Learning (ML), as the name suggests, enables machines to process and interpret data similarly to human cognition. ML aims to facilitate systems that learn from experience and make accurate predictions based on that learning