Chapter 4
AI-Aided Teaching Model in Education 5.0

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ABSTRACT

In the educational setting, artificial intelligence (AI) technology, notably chatbots, has made substantial improvements in English learning. This study aims to determine the effectiveness of using the Artificial Intelligence Virtual Dream Friend and John English Boot applications on learning English in the 5.0 revolution era in English courses for first-semester students at university. The assessment method used is a quantitative research method and research design (quasi-experiment design). Based on the results of the study, it can be concluded that the results of the comparison test showed that My Virtual Dream Friend and John English Bot were both effective for use as computer tutoring in English courses and also increased interest in learning English in the 5.0 revolution era compared to previous conventional methods. The outcomes of this study might be used to direct future research into utilizing chatbots outside of the classroom as learning companions, and educators could use them to adapt evaluation and feedback procedures.

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INTRODUCTION

Education has undergone profound changes as a result of the widespread use of digital technologies and the proliferation of connected information networks. Better tools are becoming available to facilitate the more complex activities that have traditionally been a part of the educational process (Wright et al., 2023; Fullan, 2023).

Giving students timely feedback like this helps them assess their progress and learn more efficiently (Huang et al., 2023). Technology's contribution to bettering the teaching and learning process is growing in significance as educational models adapt to new learning technologies. One of the most pressing concerns of the last decade has been the use of technology to improve the teaching and learning process (Ekin et al., 2023) and numerous learning management systems (LMS) that accomplish this goal keep being proposed (Alfalah, 2023) to do so in a variety of ways (Anderson, 2023).

Academics have stressed that while learning technologies can significantly improve learning and teaching, they will also produce a range of issues related to student-system interactions due to their many forms and sizes (Elme et al., 2022). Students' learning processes and outcomes with the help of modern learning aids are strongly influenced by their attitudes, emotions, and learning experiences (Kuleto et al., 2022).

A growing body of research has sought to clarify the ways in which educational chatbots can enhance learning in a variety of contexts, such as language learning (Kuhail, M. A., et al., 2022), vocabulary acquisition (Yunjiu et al., 2022; Huang & Wang, 2021), the development of communicative competence (Kim et al., 2022; Hu & Hu, 2020; Mohammed Mahmoud Ghoneim, & Elsayed Abdelsalam Elghotmy, 2021).

These chatbots used a question-and-answer format to motivate students to put in the effort required to acquire the requisite information or skill. In the same way that human reading companions may accompany and give emotional supports to help students read actively, chatbots can act like them and inspire students to think about the tales they are reading (Liu et al., 2022; Zhang et al., 2022).

Student responses to chatbots may differ from those to humans, according to the literature (Winkler & Söllner, 2018; Hill et al., 2015). The literature is silent on how students evaluate the chatbot's usefulness as a reading companion. The research isn't clear on whether or whether students believe chatbots made with modern natural language processing techniques, such co-reference resolution and dependency parsing approaches, to have intelligence about the books they've read and act like a human reading partner.

Scholars and professionals in the field of language study and teaching have started looking into Intelligent Computer Assisted Language Learning (ICALL) because of the promising future it holds for AI in education (Weng & Chiu, 2023). This topic expands Computer Assisted Language Learning (CALL) by introducing artificial intelligence (AI) into the language learning environment (Huang et al., 2023).

Differentiating itself from other LMSs, ICALL makes use of a number of different artificial intelligence (AI) techniques, including natural language processing (NLP) (Pokriváková, S. 2019), intelligent tutoring systems (ITS), and others to facilitate complex interactions between students and their learning environment (Swartz & Yazdani, 2012). These interactions were developed using automated feedback (Huang et al., 2023), intelligent tutoring (Furlan et al., 2021), and customization (Huang et al., 2022).

The best learning outcomes for students (Mitra & Banerjee, 2022) and 21st century skills may be achieved through their flexibility and adaptability, which allows them to meet the demands of each individual student (Muthmainnah et al., 2022).

For an ICALL environment to be successful, it must adhere to sound instructional design principles that direct learning practice and optimize student growth (Muthmainnah et al., 2023). For this purpose,