


Chapter 10


Artificial Intelligence in Education: Partner or Replacement for Teachers?

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ABSTRACT

The learning process is an essential element of educational achievement, and after the spread of artificial intelligence techniques (AI), these technologies had to be used to develop the learning process. In this time, important question appear, is using AI in Education: Partner or Replacement for Teacher? This paper provides a comprehensive study of AI's role in education, illustrating how it can complement and enhance the instructional functions performed by teachers. The discussion critically evaluates the advantages AI brings to diverse educational settings while also acknowledging its limitations in fully replicating human instruction. As a conclusion this paper highlighting the unique and irreplaceable aspects of human teaching, this analysis underscores the indispensable role of educators in the learning process. Subsequent sections will explore AI as a supplementary tool within traditional educational frameworks.

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I. INTRODUCTION

The rapid advancement of artificial intelligence (AI) in education has sparked intense debate about whether these technologies will serve as collaborative tools for teachers or ultimately replace human educators. As AI systems become increasingly sophisticated capable of tutoring students, grading assignments, and even generating lesson plans the educational landscape faces profound transformation. This paper examines the current state of AI in education, analyzing empirical research on implementation models, teacher and student perceptions, and the evolving relationship between human educators and intelligent systems. Drawing from recent studies and expert analyses, we explore the nuanced reality that AI is more likely to transform teaching than replace it, while acknowledging legitimate concerns about job displacement and the erosion of human connection in learning environments.

The integration of AI in education presents several challenges that must be addressed to ensure its effective and ethical use. One key concern is the potential for biases inherent in AI systems, which can perpetuate existing inequalities if not properly managed (Ding et al., 2024). Additionally, data privacy and security are critical issues, as the vast amount of personal and academic information processed by AI tools must be safeguarded to protect students' rights and privacy. Furthermore, there is a need to strike a balance between the role of human educators and the increasing use of automated teaching tools. While AI can enhance the learning experience by providing personalized support, it cannot replace the essential mentorship, emotional guidance, and nuanced understanding that human educators offer. Therefore, careful consideration is required to integrate AI in a way that complements, rather than undermines, the invaluable contributions of educators in the classroom. The rise of AI in education represents a shift towards more inclusive, empowered, and technologically integrated learning environments. By fostering literacy and critical engagement with AI concepts, educational institutions can prepare students for a rapidly evolving digital society (Bryant et al., 2020) (Rayhan et al., 2023)

II. AI AS A PARTNER IN EDUCATION

The majority of research suggests AI serves education best as a partner rather than replacement for teachers. Several key benefits emerge from this collaborative model:

1. **Personalization at Scale:** AI systems excel at providing individualized instruction tailored to each student's needs, learning pace, and style (Kim & Kim, 2022) [2] (Marr, 2022). This personalization extends to supporting students with learning differences and providing accommodations that increase accessibility

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