

Impact of Artificial Intelligence in Modern Educational Environments: A Retrospective Analysis

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Abstract

Artificial intelligence is dynamically, and in many ways, irretrievably changing modern education due to personalized learning support, the automation of administrative duties, and improvements in the classroom. However, not all challenges are met squarely: teacher preparedness and ethical concerns are only the beginning, not to mention infrastructural constraints. This is a review of certain applications of AI in facilitating adaptive learning, intelligent tutoring systems, and inclusive education for learners. A literature review on artificial intelligence in education from the years 2015 to 2024 reveals that it produces better learning outcomes for students and increased efficiency for teachers through immediate feedback, thus helping both in the process of education. Some of the most prominent applications include Adaptive Learning Systems and Intelligent Tutoring Systems. However, the following issues of Algorithmic Bias, Data Privacy, and Teacher Digital Literacy are all important concerns that each deserves much more emphasis than they have received so far. This paper presents a critical review of the literature on AI integration, tracing the gaps in the same. Therefore, it calls for the continuous training of teachers, robust policy reforms, and heavy infrastructure investments that will ensure effective and equitable AI adoption. The finding underlines that only with responsible implementation will the full potential of AI be reaped to foster an inclusive and efficient educational environment.

Keywords: *Artificial Intelligence, Education, Learning analytics, Tutoring systems, Assessment system*