Transforming Teacher Education Through AI Integration

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Abstract

Artificial Intelligence has the power to bring major positive changes to teacher training programs. This paper looks at the main ideas, possibilities, and challenges of using AI systems in programs for both new and working teachers. The discussion connects with the National Education Policy 2020, which promotes learning that uses technology, focuses on practical skills, and covers multiple subjects. The paper explores how AI can help improve course design, lesson planning, understanding of student assessment, self-reflection on teaching practices, and lifelong learning for teachers.

The study examines various AI-based tools such as smart tutoring systems, learning platforms that adjust to individual needs, tools that forecast student outcomes, and AI applications that can generate content. These technologies offer ways to customize teacher training, provide immediate feedback, support teaching choices based on data, and encourage new teaching approaches. At the same time, the paper honestly discusses important concerns including protection of personal data, unfair biases in AI systems, unequal access to technology, and the requirement for clear guidelines and digital skills standards in teacher education institutions.

The paper puts forward a basic framework for using AI in a responsible manner that maintains a balance between technological progress and human-focused teaching methods. It suggests that AI should serve as a helper and supporter rather than take over the role of teacher judgment and thoughtful practice. The conclusion shows that careful and ethical use of AI can improve teacher readiness, raise teaching standards, and support lasting improvements in education for the current times.

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1