



Teacher Education Reforms Aligned with NEP 2020: Exploring Pedagogical Transformation through AI-Enabled Practices

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Abstract

The National Education Policy (NEP) 2020 emphasizes comprehensive reforms in teacher education with a focus on competency-based learning, multidisciplinary perspectives, digital integration, and continuous professional development. In this evolving educational landscape, Artificial Intelligence (AI) offers significant potential to support pedagogical transformation and institutional change in teacher education. This paper explores how AI-enabled practices can contribute to aligning teacher education reforms with the vision and objectives of NEP 2020. The study examines key applications of AI in personalized learning, intelligent lesson planning, adaptive assessment and feedback, virtual teaching simulations, and data-driven professional development for both pre-service and in-service teachers. AI tools are shown to facilitate reflective teaching, inclusive pedagogy, and outcome-based education by addressing diverse learner needs and enhancing instructional effectiveness. At the same time, the paper critically discusses challenges related to ethical concerns, data privacy, digital divide, and the preparedness of teacher educators to meaningfully integrate AI technologies. The paper argues that responsible and strategic integration of AI can act as a catalyst for pedagogical innovation and quality enhancement in teacher education. Aligning AI-enabled practices with NEP 2020 has the potential to strengthen teacher preparation programs and better equip future teachers for the demands of 21st-century classrooms.

