



## **AI-Based Teacher Education Reform and Educational Transformation in Alignment with NEP 2020**

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### **Abstract**

The National Education Policy (NEP) 2020 envisions a transformative shift in India's education system by integrating technology, innovation, and multidisciplinary approaches into teaching and learning. In this context, Artificial Intelligence (AI) emerges as a powerful catalyst for reforming teacher education and fostering comprehensive educational transformation. This paper examines how AI-driven technologies can strengthen teacher preparation programs and align them with the progressive vision of NEP 2020.

AI-enabled platforms such as intelligent mentoring systems, predictive analytics, virtual classrooms, and automated assessment tools provide personalized professional development opportunities for teachers. These technologies facilitate competency-based training, reflective practice, real-time feedback, and data-informed instructional planning. By equipping teachers with digital fluency, pedagogical innovation, and research-oriented thinking, AI contributes to the creation of future-ready educators capable of addressing diverse learner needs.

Furthermore, AI supports institutional reforms by identifying learning gaps, enhancing curriculum design, and promoting inclusive education through adaptive learning environments. The study emphasizes the ethical use of AI, teacher autonomy, and human-centered implementation to ensure that technology complements rather than replaces the educator's role. In alignment with NEP 2020's focus on quality, equity, and holistic development, AI-driven teacher education has the potential to revolutionize teaching practices, strengthen educational governance, and accelerate sustainable educational transformation in India.

