



Teacher Education and Professional Development through Enabled Systems

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Abstract

This paper explores the transformative potential of technology-enabled systems, particularly those integrating artificial intelligence (AI) and blockchain, in revolutionizing teacher education and professional development. It addresses the limitations of traditional models and highlights the benefits of AI-driven analytics, virtual reality, and personalized learning pathways in cultivating technological and pedagogical fluency. The study emphasizes the urgent need for expanded frameworks prioritizing AI literacy training, enabling teachers to leverage tools effectively and ethically. It introduces the 'Enabled System,' a conceptual framework that positions teacher education as a dynamic, AI-enhanced ecosystem fostering collaborative reflection and dialogic knowledge creation. The paper discusses the system's role in enhancing content knowledge, its perceived usability and effectiveness, and the challenges and limitations in its implementation. It also provides recommendations for practice and policy, advocating for structured training on ethical and pedagogical AI use, certification standards for AI literacy, and collaborations between educators and AI experts. The conclusion underscores the importance of evidence-based refinements and longitudinal studies to ensure the scalability and efficacy of AI-enabled professional development models, ultimately cultivating a legacy of responsible innovation that bridges technological advancement with humanistic educational values.

