AI in the Classroom: Transforming Physics Instruction for the Digital Age

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Abstract*: This research study explores the potential of AI integration in physics education, utilizing a comprehensive mixed-methods approach to examine the impact of AI-driven interactive tools on learning outcomes, personalized instruction, and engagement across various educational levels. Through quantitative assessment, pre and post-assessment scores will be analyzed to measure improvements in participants' comprehension. Qualitative insights from participant feedback will provide a deeper understanding of the user experience, highlighting strengths and areas for enhancement. This research aims to inform educators and policymakers about the efficacy of AI technologies, with the goal of revolutionizing physics instruction for the digital era by harnessing the adaptability and personalization offered by AI-driven tools.*

Keywords: AI integration, physics education, interactive tools

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802

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