

Harnessing AI-Based Learning Tools to Enhance Academic Performance: Evidence from Sri Lankan Undergraduates

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Abstract

This study examines the impact of Artificial Intelligence (AI)-based learning adaptation on the academic performance of undergraduates in Sri Lanka's state universities. With the rapid integration of AI tools such as ChatGPT, Grammarly, and Google Bard into higher education, this research investigates how these technologies influence students' project management skills, learning outcomes, and creative thinking abilities. Adopting a quantitative approach, a structured questionnaire was administered to 384 undergraduates representing 17 state universities. Data were analyzed using descriptive statistics, correlation, and regression analyses. The findings revealed a statistically significant and positive relationship between AI-based learning adaptation and improved academic performance. AI's ability to provide personalized feedback, enhance engagement, and support independent learning contributed meaningfully to improved project execution and innovation. However, the study also underscores the potential risks of overreliance on AI and its effects on students' originality and critical thinking. The results offer valuable insights for educators and policymakers seeking to integrate AI responsibly within Sri Lanka's higher education landscape.

Keywords: academic performance, AI-based learning adaptation, creativity, learning outcomes, project management