

AI-POWERED LEARNING ANALYTICS: IMPACT ON STUDENT ENGAGEMENT AND ACADEMIC PERFORMANCE

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ABSTRACT

This study explored the impact of Artificial Intelligence (AI) on student engagement in higher education, addressing the issue of declining student participation in the traditional educational system and the potential of AI to enhance learning experiences. The main objective was to assess the effectiveness of AI-based applications and platforms in enhancing students' engagement, motivation, and academic performance. This study used a qualitative research approach, gathering data from 200 undergraduate students at a state university in Sri Lanka representing various faculties and academic years. Primary data were collected through qualitative surveys and secondary data were obtained from previous academic surveys. Data analysis involved breaking down the data into categories and codes, with interpretation focused on understanding the generated principles and exploring theories to explain relationships. The findings indicated that AI applications such as personalized learning systems, intelligent tutoring, and AI-based feedback systems significantly improved student engagement by providing customized learning experiences and immediate feedback. The study also found that students had significantly increased motivation and interest in learning when AI solutions were employed in the learning process. Moreover, the study implied that AI, presented in the form of analytics, contributed to enhancing academic performance by enabling instructors to meet the learning needs of individual students. This study suggests that integrating AI into higher education can lead to more effective teaching strategies and improved student outcomes. The research revealed that learning motivation and interest improved among students when AI solutions were integrated into teaching, and also implied that AI improved academic performance because instructors were able to address the learning needs of each learner.

Keywords: Artificial intelligence, higher education, personalized learning, academic performance, and student engagement