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THE MEDIATING ROLE OF ENGAGEMENT AND COGNITIVE LOAD ON STUDENT OUTCOMES IN DIGITAL LEARNING ENVIRONMENTS

DEONNY KRIS B. ALAGOS
deonnykris@gmail.com

ABSTRACT

This study examined the mediating roles of Student Engagement and Cognitive Load in the relationship between digital learning factors and student outcomes among 481 undergraduate students at Emilio Aguinaldo College (EAC) Cavite. Using a quantitative, cross-sectional correlational design with purposive sampling, the study analyzed how Digital Diversity, Ease of Use, and Level of Interaction predict Academic Performance and Student Retention. Findings revealed that Ease of Use and Level of Interaction significantly predicted Engagement, while all digital antecedents predicted Cognitive Load. Engagement significantly predicted both Academic Performance and Retention, whereas Cognitive Load significantly predicted Academic Performance but not Retention. Mediation analysis confirmed that digital tools influence outcomes indirectly through psychological mechanisms. Results support the Blended Learning Quality Assessment framework proposed by Panigrahi et al. (2024) and align with findings by Topping et al. (2022) regarding the effectiveness of blended learning. Institutional policies should therefore focus on optimizing interaction quality while managing cognitive strain to sustain both academic success and persistence.

Keywords: *mediating role, cognitive load, digital, learning environments*

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