

ASSESSMENT OF LEARNERS MENTAL LOAD USING ELECTROENCEPHALOGRAM (EEG) TECHNOLOGY TOWARDS ENHANCEMENT OF LEARNING

Anna Liza A. Ramos, Elena R. Manalo

Saint Michael's College of Laguna

This study investigates the impact of mental load on student performance by conducting an experiment with 30 stratified randomly sampled students, categorized as “Competent,” “Capable,” and “Challenged.” Participants engaged with learning material on iterative structures while their brain signals were monitored using an Electroencephalogram (EEG) tool. Analysis of EEG data revealed variations in frequency bands (gamma, beta, and alpha) that correspond to different mental loads during learning tasks. Alpha frequency was predominantly observed, suggesting a generally normal mental load. However, signal peaks in the EEG data showed significant fluctuations, beginning high and diminishing throughout task execution, which points to notable changes in mental load levels. Furthermore, 50% of the participants exhibited high peak signals across all frequency bands, correlating with increased mental load levels: “Very High” in gamma, “High” in beta, and “Normal” in alpha bands. These high mental loads were associated with failing performance outcomes. The findings underscore the importance of mental load management in educational settings. The study recommends revisiting instructional materials and enhancing support mechanisms to aid learners in managing their mental loads effectively. Personalized learning approaches that consider individual mental load capacities could enhance educational outcomes, emphasizing the need for resources that support effective mental load management.

Attitudes, Behaviors and Adoption Intentions Toward Artificial Intelligence Generative Tools in a Higher Educational Institution

ANTONIETTE Z. LACERNA, Marlon Patrick P. Lofredo, Madelyn E. Menor, Helen M. Rigor

St. Paul University Quezon City

This study aimed to determine the attitudes toward artificial intelligence (AI) generative tools, related behaviors, and intention to use AI generative tools among the faculty, Senior High School, and college students at St. Paul University Quezon City. Weighted means were used to summarize data while correlation analysis was employed to understand relationships between variables. Findings show that attitudes moderately influence intentions, but subjective norms have a low effect on attitudes. Positive attitudes have negligible relationship with respondents' perceived behavioral control while the negative relationship between intention to use and perceived control, however, points to complexity that requires further investigation. All things considered, these results highlight the complex interactions among variables influencing people's attitudes and actions related to the adoption of AI generative tools, particularly in educational settings. Results of this study will provide valuable input to policy formulation particularly in the development of tailored policies and strategies aimed at promoting responsible and ethical AI adoption in educational contexts.