

Project-based learning through the technology acceptance model framework: its impact on self-regulated learning of university students

Sadriana Ayu ^{1,2*}Rizal Arizaldy Ramly ^{1,3}Mustaji Mustaji ¹Andi Mariono ¹
Muldiyana Muldiyana ¹Nurhidayah Nurhidayah ¹Yohanes Arief Widarsa ¹

Abstract

Introduction:

This study investigates the effect of project-based learning (PjBL), integrated with the Technology Acceptance Model (TAM), on university students' self-regulated learning (SRL), with particular attention to the mediating roles of perceived usefulness (PU) and perceived ease of use (PEOU).

Methods:

A quantitative explanatory design was employed using covariance-based structural equation modeling (CB-SEM). Data were collected from 250 undergraduate students enrolled in an educational technology programme using a validated questionnaire measuring PjBL implementation, PU, PEOU, and SRL.

Results:

The findings showed that PjBL had a significant direct effect on SRL ($\beta = 0.41$, $p < 0.001$). PjBL also demonstrated significant indirect effects on SRL through PU ($\beta = 0.19$) and PEOU ($\beta = 0.15$), with a combined indirect effect of $\beta = 0.34$, accounting for 45.3% of the total effect ($\beta = 0.75$). Since the direct effect remained significant after both mediators were included, the results indicate complementary partial mediation rather than full mediation.

Discussion and Conclusion:

The findings suggest that technology acceptance constitutes a substantial, but not exclusive, mechanism through which technology-supported PjBL enhances students' self-regulated learning, particularly in goal setting, self-monitoring, time management, motivation, and reflective learning. The study extends the application of TAM beyond technology adoption by demonstrating its explanatory role in understanding the development of SRL in higher education.