

## **The Influence of Problem-based Learning on Students' Learning Outcomes**

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**Abstract:** This study employs a quasi-experimental design to investigate the effects of Problem-Based Learning (PBL) on university students' mathematics learning outcomes. Findings indicate that PBL promotes collaboration and problem-solving, effectively connecting theoretical concepts to real-world applications. Incorporating PBL into traditional teaching methods enhances learning outcomes, increases student engagement, and fosters greater interest, highlighting its potential as a transformative approach to mathematics education.

**Keywords:** Problem-Based Learning (PBL), Quasi-experimental Design, Learning Outcomes

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