

ABSTRACT

Silvi Priandini, 12121050165, 2025, “*Application of Problem-Based Instruction Learning Model Assisted by That Quiz on Students' Mathematical Conceptual Understanding*”

Students' mathematical conceptual understanding skills still need to be developed. This condition indicates the need for a learning model that can encourage deep thinking activities. The purpose of this study is to describe the implementation process of the Problem-Based Instruction model assisted by That Quiz, analyse whether the mathematical conceptual understanding of students who received Problem-Based Instruction assisted by That Quiz is better than that of students who received conventional instruction, and identify students' responses to the application of this model. Based on the research framework, the integration of Problem-Based Instruction with That Quiz is considered capable of strengthening conceptual understanding through authentic problem solving, collaborative discussion, and adaptive digital evaluation. This study used a quasi-experiment with a Nonequivalent Control Group Design. The research instruments included an observation sheet on learning implementation, pre-test and post-test on mathematical conceptual understanding, and a student response questionnaire. The results showed that the implementation of Problem-Based Instruction learning assisted by That Quiz was carried out well. Pretest analysis shows that the initial abilities of students in the experimental class and control class were relatively the same. After the treatment, posttest analysis results reveal that the mathematical conceptual understanding of students in the experimental class was better than that of the control class. In addition, student responses to learning show that almost all students responded positively, especially in terms of clarity, questions, increased interest in learning, and confidence in understanding the material.

Keywords: *Mathematical Conceptual Understanding, Problem-Based Instruction, That Quiz*