ABSTRACT

Erika Sania Lesmana (2025). ***Improving Mathematical Literacy and Self-regulated Learning Skills of Junior High School Students Through the Problem Based Learning (PBL) Model Assisted by Nearpod.***

Mathematical literacy and self-regulated learning play an important role in mathematics education. Mathematical literacy is an essential part of students' cognitive abilities, and self-regulated learning is an affective ability that supports the success of learning mathematics. However, students' mathematical literacy and self-regulated learning abilities are still considered low, with students experiencing difficulties in mathematical literacy. The application of a problem-based learning model assisted by Nearpod is proposed as an alternative solution to improve students' mathematical literacy and self-regulated learning. This study aims to: 1) Determine whether the mathematical literacy improvement of junior high school students who receive the problem-based learning (PBL) model assisted by Nearpod is higher than that of junior high school students who receive regular learning models. 2) Examine the self-regulated learning of junior high school students who receive the problem-based learning (PBL) model assisted by Nearpod is better than middle school students who receive conventional learning models. 3) To find out the correlation between mathematical literacy skills and self-regulated learning of middle school students who received problem-based learning (PBL) assisted by Nearpod. 4) To determine the effectiveness of the problem-based learning model assisted by Nearpod on the improvement of mathematical literacy skills. The method used is quasi-experimental. The subjects in this study are Pasundan Middle School 6 Bandung. The research instruments include test instruments that measure mathematical literacy skills and non-test instruments in the form of self-regulated learning questionnaires. The sample consists of 2 classes, namely class VIII-B as the experimental class and class VIII-C as the control class. Data analysis consists of 1) Two-tailed t-test (Independent Sample t-Test). 2) Mann-Whitney test. 3) Pearson correlation test. 4) Effectiveness calculation using Effect Size (Cohen's d). Based on the data analysis results, the conclusion is as follows by the following: 1) The improvement in the mathematical literacy skills of students who received the Nearpod-assisted problem-based learning model is higher than that of students who used the regular learning model. 2) The self-regulated learning of students who received the Nearpod-assisted problem-based learning model is better than that of students who received the regular learning model. 3) There is a significant positive correlation between the improvement of mathematical literacy skills and self-regulated learning of students who received the Nearpod-assisted problem-based learning model. 4) The effectiveness of the Nearpod-assisted problem-based learning model on students' mathematical literacy skills is categorized as moderate.

Keywords: *Mathematical Literacy Skills, Self-regulated Learning, Problem-based learning model, Nearpod.*