

ABSTRACT

BERLINA ASTANTI: The Application of the Problem-Based Learning (PBL) Model Assisted by Wordwall to Improve High School Students' Mathematical Problem-Solving Ability and Self-Regulated Learning.

The objectives of this research are: (1) To determine that the improvement in mathematical problem-solving abilities of students learning through the Problem-Based Learning (PBL) model assisted by Wordwall is higher than that of students receiving conventional models. (2) To ascertain that the Self-regulated Learning of students receiving the Problem-Based Learning (PBL) model assisted by Wordwall is better than that of students receiving conventional models. (3) To determine the correlation between students' mathematical problem-solving abilities and Self-regulated Learning among participants using the Problem-Based Learning (PBL) model assisted by Wordwall. (4) To determine the effectiveness of the Problem-Based Learning model assisted by Wordwall in improving mathematical problem-solving abilities. The method applied in this research is quasi-experimental with a non-equivalent control group design. The subjects of this research were 10th-grade students at SMAN 17 Bandung, with the research sample consisting of two classes: class X-J as the experimental class and class X-G as the control class. The instruments used included essay test questions to measure mathematical problem-solving abilities and non-test questionnaires for self-regulated learning. Data analysis was conducted using IBM SPSS 27 for Windows. The research results show that: (1) The improvement in mathematical problem-solving abilities of high school students through the Problem-Based Learning (PBL) model assisted by Wordwall is higher than that of students receiving conventional learning models. (2) The Self-regulated Learning of high school students through the Problem-Based Learning (PBL) model assisted by Wordwall is better than that of students receiving conventional lessons. (3) There is a correlation between mathematical problem-solving abilities and Self-regulated Learning through the Problem-Based Learning (PBL) model assisted by Wordwall. (4) The Problem-Based Learning model assisted by Wordwall is effective in significantly improving mathematical problem-solving abilities.

Keywords: *Problem-Based Learning (PBL) Model, Wordwall, Mathematical Problem-Solving Skills, Self-Regulated Learning.*