

ABSTRACT

Ajeng Siti Prasetya. 2017. **The Influence of Problem-Based Learning Model with Rigorous Mathematical Thinking Approach Againsts Improvement of Mathematical Problem Solving Skill and Learning Independence of High School Student's**

Mathematical problem solving skill and learning independence of high school students' is still relatively low. One of learning models that can be used to enhance mathematical problem solving skill and learning independence of high school students' is Problem-Based Learning model with Rigorous Mathematical Thinking approach. This research aims to: 1) To know the improvement students' mathematical problem solving skill which was taught by implementing Problem-Based Learning model with Rigorous Mathematical Thinking approach, better than who was implemented by Problem-Based Learning model with Scientific approach; 2) To know the improvement of students' learning independence which was taught by Problem-Based Learning model with Rigorous Mathematical Thinking approach, better than who was implemented by Problem-Based Learning model with Scientific approach. This research used the quasi-experimental method. The research design that is used in this research is *pretest-posttest* group design. The research population is all the XI grade students of SMA Negeri 12 Bandung. Furthermore, the sample of this research is the students of group XI Sains 6 as experiment group and the students of XI Sains 5 as control group. The research instrument that is used is students' test on mathematical problem solving skill and students' learning independence questionnaire. The data processing and analyzing use two Independent Sample t-Test and Mann Whitney test with Microsoft Excel and IBM SPSS Statistic 23.0 for Window support. The research results show that: 1) The improvement of students' on mathematics problem solving skill which was taught by Problem-Based Learning model with Rigorous Mathematical Thinking approach is higher than the ones who was implemented by Problem-Based Learning model with Scientific approach; 2) The improvement of students' learning independence which was taught by Problem-Based Learning model with Rigorous Mathematical Thinking approach is higher than the ones who was implemented by Problem-Based Learning model with Scientific approach. Therefore, the Problem-Based Learning model with Rigorous Mathematical Thinking approach can be used by the teacher as an alternative for studying activities in class.

Key word: Problem-Based Learning model, Rigorous Mathematical Thinking approach, Scientific approach, Mathematical Problem Solving Skill, Students' Learning Independence