

ABSTRACT

Puji Meidyani Setia. (2020). *Students' Mathematical Representation Ability and Self Regulated Learning through Problem Based Learning (PBL) Model.*

In the cognitive field, one of the high level mathematical abilities that students must have is mathematical representation ability. In addition, in the affective field in mathematics learning students also need to have one attitude, one of the attitude is self regulated learning. However, most of the category in students' mathematical representation ability and self regulated learning are still low. Therefore, one alternative to solve these problems is apply the Problem Based Learning (PBL) model in mathematics learning which is expected to improve students' mathematical representation ability and self regulated learning. The purpose of this study are: (1) to describe how students' mathematical representation ability through the PBL model; (2) to describe how students' self regulated learning through the PBL model; and (3) to describe how relation between students' mathematical representation ability and self regulated learning. This research is a literature study with a qualitative approach, where the source of data comes from various literature sources. The data collection techniques that used in this study are editing, organizing, and finding and the data analysis techniques that used in this study are deductive, inductive, and comparative analysis. The conclusions of this study are: (1) Students' mathematical representation ability which the initial is low has increased and better after the implementation of the PBL model, this happens because in the PBL model there are several learning steps that can exercise students' mathematical representation ability in solving a problems. Achievement and improvement of indicators students' mathematical representation ability who obtain learning with PBL model is higher than students who obtain learning with other models, especially the conventional model. However, the PBL model can also be said to be ineffective and has no influence to students' mathematical representation ability on a particular condition; (2) Students' self regulated learning which the initial is low has increased and better after the implementation of the PBL model, because in the PBL model there are several learning steps that affect students' self regulated learning; (3) The relation between students' mathematical representation ability and self regulated learning have a variety levels starting from moderate, less strong, low, very low, even there is no relation among them. There are some influence of self regulated learning to mathematcal representation ability. However, the data about influence of students' mathematical representation ability to self regulated learning is still not found.

Keywords: *Mathematical Representation Ability, Self Regulated Learning, Problem Based Learning (PBL)*