

ABSTRACT

THE INFLUENCE SKILL REPRESENTATION OF MATHEMATICS TO MASTERY OF THE CONCEPT MOTION STUDENT JUNIOR HIGH SCHOOL

By

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Based on practical experience in the field of secondary school (junior high school), there are still many students who think physics is a subject that is difficult because many uses mathematical formulas and a lot of concept development. This is due to their ability to operate in mathematical physics formula is still lacking. Moreover, the motion of matter, students should be able to operate a mathematical formula, because there are some relationships and mathematical formulations in the mastery of the concept of motion. One effort that can assist students in improving mastery of concepts, especially on the motion of matter is to develop representations of their mathematical skills. Based on this, researchers are trying to do research to determine the effect of the representation of mathematical skills to junior high school students' mastery of the concept of motion.

This study aimed to: (1) Knowing the mathematical representation of the influence of skill on students' mastery of the concept of junior high school

movement, and (2) Determine the increase mastery of the concept of motion junior high school students using mathematical representation skills.

The research was conducted in SMP Negeri 1 Pringsewu, using a single class ie class VII, a sample of 38 students and design using the One-Group Pretest - posttest. In this study obtained data representation of mathematical skills, pretest and posttest data students' mastery of the concept of a normal distribution and linear. Then to test the influence of tested linearity, correlation, and simple linear regression between the data representation of mathematical skill and concept mastery posttest data. As for knowing increasing mastery of the concept of percentage increase in score calculation, the N-gain, and the test of paired samples t test of pretest and posttest data student mastery of concepts.

The results of this study indicate that: (1) There is a positive linear influence and significant relationship between the representation of mathematical skills to junior high students 'mastery of the concept of motion with a contribution of 67% and the regression equation is $Y' = 7,818 + 1,288 X$, and (2) Occurs significant improvement of students' mastery of the concept of motion SMP by using mathematical representation skills, with the value of N-gain an average of 0,58 is included in the category of being.

Keywords: skill representation of mathematics and mastery of concepts.