

ABSTRACT

NUR INTAN SAUDAH. Comparison of Students' Mathematical Reasoning Ability Who Learned Using Learning Cycle 7E Models and Problem Based Learning Models (Experimental Studies in 149 Junior High School, Jakarta). Essay. Jakarta: Mathematics Education Program, Faculty of Mathematics and Natural Sciences, State University of Jakarta, 2017.

This study aims to determine empirically whether the students' mathematical reasoning abilities taught by learning cycle 7E models higher than problem based learning models on the chapter of tangent to the circle.

The study was conducted at 149 Junior High School Jakarta on March until April 2017. This study method uses quasi experiment. The sampling technique in this study used two stage sampling. Before choosing the two classes as the experimental class, the researcher had to do normality test, homogeneity test, and average equality test. After that, selected experimental class 1 (used learning cycle 7E models) and experimental class 2 (used problem based learning models). The research instrument was using the test of mathematical reasoning ability on the chapter of tangent to the circle as much as 6 questions. Measurement of validity using content validity, construct validity, and empirical validity by using Pearson Product Moment formula. From the calculation obtained value of reliability coefficient equal to 0,4211, which means reliability including classification enough.

Based on the research data, the average of the mathematical reasoning test result of experimental class 1 students is 78,6944 and the experimental class 2 is 73,1667. The result of normality test that using Kolmogorov Smirnov test obtained that the score data of both classes come from the normally distributed population. The result of homogeneity test that using Fisher test obtained that the score data of both classes have the same variance. Hypothesis testing using $t_{\text{value}} = 2,2477 > 1,9944 = t_{\text{table}}$ so H_0 rejected. Based on data above, it can be concluded that the mathematical reasoning ability of students who learned use Learning Cycle 7E models higher than the ability of students' mathematical reasoning who learned use Problem Based Learning models.

Keyword: Mathematical Reasoning Ability, Learning Cycle 7E Models, Problem Based Learning Models