## ABSTRACT

LIA SETIAWATI, Comparison of Mathematical Reasoning Ability Between Students Learning Using Generative Learning Model, Learning Cycle-5E, and Conventional in State Junior High School 99 Jakarta, Skripsi. Jakarta: Mathematics Education Program, Faculty of Mathematics and Natural Sciences, Jakarta State University, 2017.

This study aims to determine the comparison of average mathematical reasoning ability among students who learn using generative learning model, learning cycle-5E, and conventional. The conventional learning model used in this research is expository. This research was conducted at State Junior High School 99 Jakarta in class VII even semester of academic year 2016-2017 on the subject of social arithmetic.

The research method used is quasi experiment. Sampling using two stage sampling technique. The first stage is purposive sampling, in this case selected five classes that are taught by the same teacher. Then the second stage is cluster random sampling, the five classes are normally distributed, homogeneous, and have the same average randomly selected three classes which are then specified as experimental class I (generative learning model), experiment II (learning cycle-5E model), and experiment III (expository learning model). The research instrument used is the final test of mathematical reasoning ability on the subject matter of social arithmetic as much as 6 item description. Prior to use, the instrument has been tested for content validity, construct validity, empirical validity, and reliability. Calculation of reliability is done using Alpha Chronbach formula and obtained reliability coefficient of 0.742959 included in the high category.

Based on the calculation of research data, experimental class I, experiment class II, and experiment class III are each derived from normally distributed populations. Furthermore homogeneity test shows that the three classes have the same variance so that hypothesis testing using One Way ANOVA test statistic. Obtained value  $F_{count} = 12,819536 > F_{table} = 3.085465$  so that  $H_0$  is rejected, it means there is a significant average difference in the three experiment classes. Then the further test used is scheffe test. The result of scheffe test of experimental class I and II is obtained  $S_{12} = 5,95035 < MD_{12} = 6,10556$  so that  $H_0$  is rejected. This means that the average mathematical reasoning ability of students who learn to use generative model is higher than learning cycle-5E. The experimental class I and III obtained  $S_{13} = 5.99456 < MD_{13} = 12.21732$  so that  $H_0$  is rejected. This means that the average mathematical reasoning ability of students who learn to use generative learning model is higher than expository. The experimental class II and III obtained  $S_{23} = 6.03601 < MD_{23} = 6,11176$  so that  $H_0$  is rejected. This means that the average mathematical reasoning ability of students who learn to use learning-cycle model 5E is higher than expository.

*Keywords*: Mathematical Reasoning Ability, Generative Learning Model, Learning Cycle-5E Model.