**ABSTRACT**

**Yayu Hafsari Fauziah “Upgrades Representation and Communication Learning Mathematics Through Mathematical Model Guided invention Viewed from High School Student Interests ". Thesis Master of Mathematics Education Postgraduate Pasundan University Bandung 2016”**

*This study aims to analyze the increase in representation and communication abilities as well as in terms of student interest. This study uses a model of guided discovery to the experimental class for class control while using direct instruction in SMA Negeri 1 Ciparay. The instrument used is the representation and communication ability tests and questionnaires student interest in learning mathematics. Statistical analysis was performed normality test, Mann Whitney, and ANOVA two lanes. The results are obtained : 1) The ability of representation and communication of mathematical students who study by using model guided discovery better than students who received direct instruction, 2) There is a difference in the ability of the mathematical representation of students who use the model of guided discovery and learning directly with attention to student interest (high, medium, low) and high interest in learning better among other interests. 3) There is no interaction effect between teaching model guided discovery and interest in learning the ability of students' mathematical representation and communication. 4) For communication capability is not there a significant difference, and interest in learning better high among other interests. 5) there is a difference between the interest in learning who is the representation and communication capabilities while for high and low interest in learning there is no difference on average significantly.*

*Keywords: Guided Learning Model invention, Kemampunan Representation, Communication Mathematically Students and Student Learning Interests*