

ABSTRACT

M.Pitrun Ramdani. *Increased Ability of Vocational Mathematical Understanding and Self Awareness of Vocational Students through the Rigorous Mathematical Thinking Approach.*

Mathematics is one of the main subjects taught at every level of education. The ability of mathematical understanding is needed by students in understanding mathematics. But the ability of students' mathematical understanding is still low. One alternative learning that can improve the ability of mathematical understanding is the Rigorous Mathematical Thinking approach. The purpose of this study is to 1) Analyze the improvement of mathematical understanding ability of students who obtain Rigorous Mathematical Thinking learning better than students who obtain conventional mathematics learning, 2) Analyze the self awareness of students who obtain Rigorous Mathematical Thinking learning better than students who obtain conventional mathematics learning and 3) Know the correlation between students' self awareness and mathematical understanding ability of students who learn using the Rigorous Mathematical Thinking approach. This study uses quasi-experiments. The population in this study were all students of class X SMK Nasional 2018-2019 school year. The sample of this study were students of class X AP 1 and X AP 2 SMK Nasional as many as two classes randomly selected according to class. The instrument used in this study was a mathematical understanding ability test and a self-awareness questionnaire that used a Likert scale. Tests and questionnaires were tested first in class XI AP. Data analysis using SPSS 20 application. Based on the analysis of research data, conclusions are obtained 1) Improvement of students' mathematical comprehension ability who get Rigorous Mathematical Thinking learning is better than students' mathematical comprehension ability who obtain conventional learning, 2) Self-awareness students who get learning Using Rigorous Mathematical Thinking is better than self-awareness students who obtain conventional learning models, 3) There is no correlation between mathematical comprehension and self-awareness abilities of students who obtain Rigorous Mathematical Thinking learning. Therefore, learning using the Rigorous Mathematical Thinking approach can be used as an alternative for teachers to carry out their learning to create an active and enjoyable learning atmosphere.

Keywords: *Mathematical understanding, Rigorous Mathematical Thinking, Self-awareness.*