

THE EFFECT OF LEARNING GEOMETRY BASED ON VAN HIELE
THEORY WITH MIND MAPPING TECHNIQUE ND DIRECT
INSTRUCTION TO STUDENTS' SPATIAL ABILITY

IN SMP N 4 BALIGE A.Y 2017/2018

Chrystin Yesica Siahaan

ABSTRACT

Chrystin Yesica Siahaan. The Effect of Learning Geometry-Based on Van Hiele Theory with Mind Mapping Technique to Students' Spatial Ability. Mathematic Education Study Program.

This research aimed to determine: 1) students' spatial ability by using geometry learning based on Van Hiele theory with mind mapping technique is better than students who taught geometry by direct instruction. 2) there wasn't the interaction between learning and students' mathematical initial ability to students' spatial ability. This research was quasi experiment. The populations of this research were all the students in eighth grade of SMP Negeri 4 Balige and the sample was chosen randomly which were VIII-1 as experiment class and VIII-2 as controlling class, each consist of 31 students. The instrument used consist of :1) mathematical initial ability test, 2) spatial ability test, the subject was about cuboid and rectangle prism. The instrument has been declared eligible content validity and reliability coefficient of 0,6102 for the students' spatial ability. The analyse of data were done by using ANAVA two-ways. The result of this research shown that (1) students' spatial ability based on Van Hiele theory with mind mapping technique was better than students who taught learning geometry by direct instruction, (2) there was interaction between learning and students' mathematical initial ability toward students' spatial ability. The researcher suggest to use the geometry learning based on Van Hiele theory with mind mapping technique as the alternative way for teachers to develop students' spatial ability.

Key word: Students' Mathematical Initial Ability, Geometry learning based on Van Hiele theory, Mind Mapping, Spatial Ability

THE
Character Building
UNIVERSITY