

The enhancement of junior high school students mathematical spatial sense abilities through computer-based interactive multimedia instruction

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Abstrak

Geometry is a basic mathematical concept studied at all education levels. However empirical evidence suggests there are many students who have difficulties learning geometry. One of many factors that enhances the success of students' understanding of geometry is students' sense of spatial ability. Seeking ways to support students' development of spatial sense, researchers studied the impact of Computer-Based Interactive Multimedia Instruction. This study was quasi experimental in nature with Pretest and Post-test Control Group Design. The participants of the study were second grade students of two public junior high schools that were classified as schools of high and middle level ranking, in Bandung. The instruments utilized in this study consisted of prior mathematical skill test (KAM) and spatial sense ability test. The results suggested that: (1a) generally the students' spatial sense ability and learning independency were enhanced using Computer-Based Interactive Multimedia Instruction, compared with conventional learning; (1b) there were no differences in the enhancement achievements between students' spatial sense ability and conventional learning related to school ranking level; (1c) according to KAM, there were significant enhancements of students' spatial sense ability between high, middle, and low KAM; (2) There is no interaction of effect between learning (CBIM and CVL) and school level to the enhancement of ability of students' spatial sense. (3) There is no interaction of effect between learning (CBM and CVL) and KAM to the enhancement of ability of students's spatial sense.