

ABSTRAK

EVRIDYA RIZKI M. Perbedaan Peningkatan Kemampuan Komuniaksi dan Pemecahan Masalah Matematis Siswa Melalui Pembelajaran Berbasis Proyek Berbantuan Media Virtual Manipulative dan Physical Manipulative di SMP Plus Jabal Rahmah Mulia Medan. Tesis. Medan : Program Studi Pendidikan Matematika Pasca Sarjana Universitas Negeri Medan, 2021.

Tujuan dari penelitian ini untuk mengetahui: (1) Apakah terdapat perbedaan peningkatan kemampuan komunikasi matematis antara siswa yang belajar dengan bantuan media belajar virtual manipulative dan physical manipulative melalui pembelajaran berbasis proyek?, (2) Apakah terdapat perbedaan peningkatan kemampuan pemecahan masalah matematis antara siswa yang belajar dengan bantuan media belajar virtual manipulative dan physical manipulative melalui pembelajaran berbasis proyek?, (3) Bagaimana proses penyelesaian masalah kemampuan komunikasi matematis oleh siswa kelas VII SMP Plus Jabal Rahmah Mulia Medan?, dan, (4) Bagaimana proses penyelesaian masalah kemampuan pemecahan masalah matematis oleh siswa kelas VII SMP Plus Jabal Rahmah Mulia Medan?. Jenis penelitian ini adalah eksperimen semu. Populasi penelitian ini adalah seluruh siswa SMP Kelas VIII di kota Medan. Kemudian dipilih sebanyak dua kelas VIII di SMP Plus Jabal Rahmah Mulia Medan sebagai sample dari penelitian. Kedua kelas eksperimen diberikan model pembelajaran berbasis proyek, kelas eksperimen pertama berbantuan media Virtual Manipulative sedangkan kelas eksperimen kedua berbantuan media Physical Manipulative. Instrumen yang digunakan terdiri dari tes kemampuan komunikasi dan tes kemampuan pemecahan masalah. Analisis data yang dilakukan menggunakan ANACOVA. Hasil penelitian menunjukkan bahwa: (1) Terdapat perbedaan kemampuan komunikasi siswa yang menggunakan media virtual manipulative dengan siswa yang menggunakan media belajar physical manipulative, (2) Terdapat perbedaan kemampuan pemecahan masalah siswa yang menggunakan media virtual manipulative dengan siswa yang menggunakan media belajar physical manipulative, (3) Perhitungan persentase hasil skor total rata-rata untuk kemampuan pemecahan masalah 57% dengan media belajar Virtual Manipulative, (4) Perhitungan persentase hasil skor total rata-rata untuk kemampuan komunikasi matematis 74,4% dengan media belajar Virtual Manipulative.

Kata kunci : Pembelajaran Berbasis Proyek, Virtual Manipulative, Physical Manipulative, Kemampuan Pemecahan Masalah, Kemampuan Komunikasi Matematis

ABSTRACT

EVRIDYA RIZKI M. Improvement Differences of Students Communicating Ability and Problem Solving Through Project-Based Learning by using Virtual Manipulative and Physical Manipulative Medias at SMP Plus Jabal Rahmah Mulia Medan. Thesis. Medan: Post-graduate Mathematics Education Program, State University of Medan, 2021.

The aim of this study was to determine: (1) Are there improvement differences in the of mathematical communication ability between students who learn by using manipulative virtual media and physical manipulative media through project-based learning? , (2) Are there improvement differences of mathematical problem solving ability between students who learn by using manipulative virtual media and physical manipulative media through project-based learning? , (3) How is the process students eight grade of SMP Jabal Rahmah Mulia Medan to answer mathematical communication test?, (4) How is the process students eight grade of SMP Jabal Rahmah Mulia Medan to answer problem solving test?. Type of research is a quasi-experimental. The population of this research was all students of VIII Grade of Junior High School in Medan. Then two classes VIII grade at SMP Plus Jabal Rahmah Mulia Medan were selected as samples of the study. The two experimental classes were given a project-based learning model, the first experimental class was assisted by Virtual Manipulative media, while the second experimental class was assisted by Physical Manipulative media. The instrument consists of mathematical communication ability test and mathematical problem solving ability test. Data analysis was performed using ANACOVA. The results show that: (1) There are differences in the mathematical communication skills of students who use manipulative virtual media with students who use manipulative physical learning media, (2) There are differences in mathematical problem-solving abilities of students who use manipulative virtual media with students who use physical manipulative learning media, (3) Calculation of the percentage of the average total score for mathematical problem-solving abilities 57% with Virtual Manipulative media, (4) Calculation of the percentage of the average total score for mathematical communication ability of 74.4 % with Virtual Manipulative media .

Keywords: Project Based Learning, Virtual Manipulative, Physical Manipulative, Problem Solving Ability, Mathematical Communication Ability