

ABSTRAK

SONY THOMAS SARAGIH. Peningkatan Kemampuan Komunikasi Matematis dan Berpikir Kreatif Matematis Siswa Melalui Model PjBL Berbantuan Media Miniatur Robot di SMP Negeri 2 Bangun Purba. Tesis. Medan: Program Studi Pendidikan Matematika Pasca Sarjana Universitas Negeri Medan, 2016.

Tujuan penelitian ini untuk mengetahui: (1) Apakah peningkatan kemampuan komunikasi matematis siswa yang diajar melalui *project based learning* (PjBL) berbantuan media miniatur robot lebih tinggi daripada siswa yang diajar melalui pembelajaran secara biasa? ; (2) Apakah peningkatan kemampuan berpikir kreatif matematis siswa yang diajar melalui *project based learning* (PjBL) berbantuan media miniatur robot lebih tinggi daripada siswa yang diajar melalui pembelajaran secara biasa?; (3) Apakah terdapat interaksi antara pembelajaran dengan kemampuan awal matematika siswa terhadap peningkatan kemampuan komunikasi matematis siswa?; (4) Apakah terdapat interaksi antara pembelajaran dengan kemampuan awal matematika siswa terhadap peningkatan kemampuan berpikir kreatif matematis siswa?. Populasi penelitian adalah seluruh siswa kelas VIII SMP Negeri 2 Bangun Purba. Sampel penelitian sebanyak 2 kelas berjumlah 60 orang siswa. Analisis data dilakukan dengan Uji *t* dan ANAVA Dua Jalur. Hasil penelitian ini menunjukkan bahwa (1) Peningkatan kemampuan komunikasi matematis siswa yang diajar melalui *project based learning* (PjBL) berbantuan media miniatur robot lebih tinggi daripada siswa yang diajar melalui pembelajaran secara biasa (signifikan $0,003 < 0,05$); (2) Peningkatan kemampuan berpikir kreatif matematis siswa yang diajar melalui *project based learning* (PjBL) berbantuan media miniatur robot lebih tinggi daripada siswa yang diajar melalui pembelajaran secara biasa (signifikan $0,013 < 0,05$); (3) Terdapat interaksi pembelajaran dengan kemampuan awal matematika terhadap kemampuan komunikasi matematis (signifikan $0,038$); (4) Terdapat interaksi pembelajaran dengan kemampuan awal matematika terhadap kemampuan berpikir kreatif matematis (signifikan $0,009$).

Kata Kunci: PjBL, Miniatur Robot, Pembelajaran Biasa, Komunikasi Matematis, Berpikir Kreatif.



ABSTRACT

SONY THOMAS SARAGIH. Enhancement Student's Mathematical Communication Skills and Mathematical Creative Thinking Through PjBL Model Miniature Robot Assisted Media in SMP Negeri 2 Bangun Purba. Thesis. Medan: Mathematics Education Postgraduate Medan State University, 2016.

The purpose of this study to determine: (1) Is the enhancement in mathematical communication ability of students taught through project based learning (PjBL) miniature robot-assisted media is higher than students taught through regular learning ?; (2) Is the enhancement in mathematical creative thinking abilities of students taught through project based learning (PjBL) miniature robot-assisted media is higher than students taught through regular learning ?; (3) Is there an interaction between the learning ability of students to the mathematical initial increase students' mathematical communication skills ?; (4) Is there an interaction between the learning with student's initial math ability to enhancement of mathematical creative thinking?. The study population was all students of grade VIII SMP Negeri 2 Bangun Purba. Samples were 2 classes of 60 students. Data were analyzed by t-test and two ways ANAVA. The results of this study indicate that (1) Enhancement of mathematical communication ability of students taught through project based learning (PjBL) miniature robot-assisted media is higher than students taught through regular learning (significant $0.003 < 0.05$); (2) Enhancement student's mathematical creative thinking ability who are taught through project based learning (PjBL) miniature robot-assisted media is higher than students taught through regular learning (significant $0.013 < 0.05$); (3) There is a learning interaction with initial math ability to communication ability (significant 0.038); (4) There is a learning interaction with initial math ability to mathematical creative thinking ability (significant 0.009).

Keywords: PjBL, Miniature Robot, Regularly Learning, Mathematical Communications, Creative Thinking.