

## ABSTRAK

SARIAYU. Peningkatan Kemampuan Komunikasi Matematik dan *Self-Efficacy* Siswa Melalui Pendekatan Realistik Berbantuan *Physical Manipulatif* Di SMP Negeri 6 Sibolga. Tesis. Medan : Program Studi Pendidikan Matematika Pasca Sarjana Universitas Negeri Medan. 2016

Tujuan dari penelitian ini adalah untuk mengetahui: (1) Apakah peningkatan komunikasi matematik siswa melalui pendekatan realistik berbantuan *physical manipulatif* lebih tinggi daripada peningkatan kemampuan komunikasi matematik siswa yang memperoleh pembelajaran biasa, (2) Apakah peningkatan *Self-Efficacy* siswa SMP melalui pendekatan realistik berbantuan *physical manipulatif* lebih tinggi daripada *Self-Efficacy* siswa yang memperoleh pembelajaran biasa, (3) Bagaimanakah interaksi antara pembelajaran dengan kemampuan awal matematik siswa terhadap peningkatan kemampuan komunikasi matematik, (4) Bagaimanakah interaksi antara pembelajaran dengan kemampuan awal matematik siswa terhadap peningkatan terhadap peningkatan *Self-Efficacy* siswa, (5) Bagaimanakah proses jawaban yang dibuat siswa dalam menyelesaikan masalah pada masing-masing pembelajaran. Penelitian ini merupakan penelitian quasi eksperimen. Populasi penelitian ini adalah siswa kelas VIII SMP Negeri 6 Sibolga. Secara acak, dipilih dua kelas dari lima kelas berjumlah 68 orang siswa. Kelas eksperimen diberi perlakuan pendekatan realistik berbantuan *physical manipulatif* dan kelas kontrol dengan pembelajaran biasa. Instrumen yang digunakan terdiri dari : (1) test kemampuan komunikasi matematik, (2) angket *Self-Efficacy*. Instrumen tersebut telah memenuhi syarat validasi isi. Analisis data dilakukan dengan uji t dan analisis varians (ANOVA) dua jalur. Hasil penelitian menunjukkan (1) Peningkatan kemampuan komunikasi matematik siswa SMP melalui pendekatan realistik berbantuan *physical manipulatif* lebih tinggi daripada peningkatan kemampuan komunikasi matematik siswa dengan pembelajaran biasa. (2) Peningkatan *Self-Efficacy* siswa SMP melalui pendekatan realistik berbantuan *physical manipulatif* lebih tinggi daripada peningkatan *Self-Efficacy* siswa dengan pembelajaran biasa. (3) Tidak terdapat interaksi antara pembelajaran dengan kemampuan awal siswa terhadap peningkatan kemampuan komunikasi matematik siswa. (3) Tidak terdapat interaksi antara pembelajaran dengan kemampuan awal siswa terhadap peningkatan *Self-Efficacy* siswa. (4) Proses penyelesaian jawaban siswa menggunakan pendekatan realistik berbantuan *physical manipulatif* lebih baik daripada pembelajaran biasa.

**Kata Kunci:** Pendekatan Realistik, *Physical Manipulatif*, kemampuan komunikasi matematik dan *Self-Efficacy* siswa.



## ABSTRACT

Sariayu. Upgrades Communications Mathematics and Self-Efficacy Students Through Realistic Approach Assisted Physical manipulatives In SMP Negeri 6 Sibolga. Thesis. Terrain: Mathematics Education Graduate University of Medan. 2016

The purpose of this study is to determine: (1) Is the increase in communication of mathematics students through realistic approach aided physical manipulative is higher than the improvement of communication capabilities mathematics students who obtain teaching ordinary, (2) Is the increase in Self-Efficacy junior high school students through a realistic approach assisted physical manipulative higher than Self-Efficacy students who obtain teaching ordinary, (3) How is the interaction between the learning with prior knowledge of mathematics students to improving the communication skills of mathematics, (4) How is the interaction between the learning with prior knowledge of mathematics students to rise to an increase in Self-Efficacy students, (5) What is the answer that the students in solving problems in each lesson. This research is a quasi experiment. The study population was the eighth grade students of SMP Negeri 6 Sibolga. Randomly selected two classes of five classes totaling 68 students. Experimental class treated realistic approach assisted physical manipulative and control classes with regular learning. The instrument used consisted of: (1) test the mathematical communication skills, (2) Self-Efficacy questionnaire. The instrument has a qualified validation of the content. Data were analyzed by t-test and analysis of variance (ANOVA) two lanes. Penelitian results showed (1) Improving the ability of mathematical communications junior high school students through realistic approach manipulative physical aided higher than the increase in communication skills math students with exceptional learning. (2) Increasing Self-Efficacy junior high school students through a realistic approach manipulative physical aided higher than the increase in Self-Efficacy students with exceptional learning. (3) There is no interaction between the learning ability of students to the beginning of improvement of communication capabilities mathematics students. (3) There is no interaction between the learning ability of students beginning to increase students' Self-Efficacy. (4) The process of settlement of the students' answers using manipulative physical aided realistic approach is better than the usual learning.

**Keywords: Realistic Approach, Physical manipulatives, mathematical and communication skills Self-Efficacy students.**