

## ABSTRAK

**Syafrida Hanum Pulungan.** Peningkatan Kemampuan Komunikasi Matematis dan *Self-efficacy* Siswa MTsN di Kecamatan Kualuh Selatan melalui Pembelajaran Berbasis Masalah. Tesis. Medan: Program Pascasarjana Universitas Negeri Medan, 2015.

Penelitian ini bertujuan untuk mengetahui: (1) Apakah peningkatan kemampuan komunikasi matematis siswa yang mendapat pembelajaran berbasis masalah (PBM) lebih baik dibandingkan dengan siswa yang mendapat pembelajaran biasa; (2) Apakah peningkatan *self-efficacy* siswa yang mendapat PBM lebih baik dibandingkan dengan siswa yang mendapat pembelajaran biasa; (3) Apakah terdapat interaksi antara pembelajaran dengan kemampuan awal siswa terhadap kemampuan komunikasi matematis siswa; (4) Apakah terdapat interaksi antara pembelajaran yang dengan kemampuan awal siswa terhadap *self-efficacy* siswa; (5) Bagaimana proses penyelesaian masalah kemampuan komunikasi matematis pada pembelajaran berbasis masalah dan pembelajaran biasa. Penelitian ini merupakan eksperimen semu. Populasi penelitian adalah seluruh siswa MTsN Kualuh Hulu dan MTsN Damuli Pekan. Sampelnya terdiri dari 4 kelas yang dipilih secara random sederhana yaitu siswa kelas VIII-A dan VIII-C dari MTsN Kualuh Hulu dan siswa kelas VIII-A dan VIII-B dari MTsN Damuli Pekan. Instrumen yang digunakan terdiri dari tes kemampuan awal matematika berupa tes objektif, tes kemampuan komunikasi matematis berupa tes uraian dan skala *Self-efficacy* model Likert. Instrumen tersebut dinyatakan telah memenuhi syarat validitas dengan koefisien reliabilitas sebesar 0,826 dan 0,877 berturut-turut untuk kemampuan komunikasi matematis dan *self-efficacy* matematis. Dalam penelitian ini data dianalisis dengan menggunakan analisis statistik deskriptif, dan analisis statistik Inferensial. Analisis statistik data dilakukan dengan analisis uji-t dan anava 2 jalur. Hasil penelitian menunjukkan bahwa: (1) Peningkatan kemampuan komunikasi matematis siswa yang mendapat PBM lebih baik dibandingkan dengan siswa yang mendapat pembelajaran biasa; (2) Peningkatan *self-efficacy* siswa yang mendapat PBM lebih baik dibandingkan dengan siswa yang mendapat pembelajaran biasa; (3) Tidak terdapat interaksi antara pembelajaran dengan kemampuan awal siswa terhadap peningkatan kemampuan komunikasi matematis; (4) Tidak terdapat interaksi antara pembelajaran dengan kemampuan awal siswa terhadap peningkatan *self-efficacy* siswa; (5) Proses penyelesaian jawaban siswa pada pembelajaran berbasis masalah lebih baik dibandingkan dengan pembelajaran biasa. Berdasarkan kesimpulan disarankan untuk menggunakan pembelajaran berbasis masalah sebagai salah satu alternatif untuk meningkatkan kemampuan komunikasi matematis dan *self-efficacy* siswa.

**Kata Kunci:** Pembelajaran Berbasis Masalah (PBM), Kemampuan Komunikasi Matematis dan *Self-efficacy*

## ABSTRACT

**Syafrida Hanum Pulungan.** Improvement Mathematical Communication Ability And Self-Efficacy of MTsN at Kecamatan Kualuh Selatan Through Problem Based Learning. Thesis. Medan: Posgraduate Program of Study Mathematics Education State University of Medan, 2015

This research was aimed to determine (1) Are improvement of student mathematical communication ability who received problem based learning (PBL) better than those who received regular learning; (2) Are improvement of self-efficacy of students who received PBL better than those who received regular learning; (3) Is there any interaction between teaching learning used and students' initial abilities to mathematical communication; (4) Is there any interaction between teaching learning used and students' initial whether abilities of self-efficacy students; (5) How does the process of problems solving in relating to abilities of mathematical communication in problem based learning and regular learning. This research is quasi-experiment research. The research population are all students of MTsN Kualuh Hulu and MTsN Damuli Pekan. Sample were four classes chosen simple randomly, namely class VIII-A and VIII-C of MTsN Kualuh Hulu and class VIII-A and VIII-B of MTsN Damuli Pekan. Instruments used consist of: basic math ability test were objective test, achievement test communication were essay test and mathematics self-efficacy questionnaire were Likert scale. The instrument has been declared eligible content validity with reliability coefficient of 0.826 and 0.877 respectively for the mathematical communication ability and mathematics self-Efficacy. The data in this research were analyzed by using descriptive statistical analysis and analysis parametric statistical. Statistical data analysis was done by analyzing t-test and two ways ANAVA. The results of the research show that (1) Improvement of mathematical abilities of students who received PBL better than those who received regular learning; (2) Improvement of self-efficacy of students who received PBL better than those who received regular learning; (3) There is no interaction between teaching learning used and initial students' abilities to abilities of mathematical communication; (4) There is no interaction between teaching learning used and initial students to self-efficacy of students; (5) Process of problem solving by students in problem based learning better than regular learning. Based on the conclusion suggested to use problem based learning as an alternative for improvement mathematical communication ability and self-efficacy of student.

**Key Words:** Problem Based Learning (PBL), Mathematical Communication and Self- Efficacy