

## ABSTRAK

**MACHRANI ADI PUTRI SIREGAR.** Analisis Kemampuan Komunikasi Matematik Siswa Sekolah Menengah Pertama Melalui Strategi Pembelajaran Kooperatif Tipe *Think-Talk-Write*. Tesis Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan. 2013.

Kata Kunci: Strategi Pembelajaran Kooperatif Tipe *Think-Talk-Write*, Kemampuan Komunikasi Matematik.

Penelitian ini bertujuan untuk mengetahui: (1) peningkatan kemampuan komunikasi matematik siswa yang mendapatkan strategi pembelajaran kooperatif tipe TTW dan siswa yang mendapatkan pembelajaran ekspositori; (2) peningkatan kemampuan komunikasi matematik siswa antara siswa yang berkemampuan matematika tinggi, sedang dan rendah; (3) interaksi antara strategi pembelajaran dengan kemampuan matematik (tinggi, sedang, rendah) terhadap peningkatan kemampuan komunikasi matematik siswa; (4) peningkatan kemampuan komunikasi matematik siswa yang mendapatkan strategi pembelajaran kooperatif tipe TTW ditinjau dari kemampuan matematik siswa (tinggi, sedang, rendah); (5) bagaimana proses penyelesaian masalah komunikasi matematik siswa pada strategi pembelajaran kooperatif tipe TTW dan strategi pembelajaran ekspositori.

Penelitian ini berbentuk kuasi eksperimen. Populasi penelitian ini adalah seluruh siswa kelas VII SMP Negeri 28 Medan yang memiliki rombongan belajar lebih dari 1. Secara acak, dipilih 2 kelas dengan kemampuan sama untuk menetapkan kelas eksperimen dan kelas kontrol. Kelas eksperimen diberi strategi pembelajaran kooperatif tipe TTW, sedangkan kelas kontrol diberi strategi pembelajaran ekspositori. Instrumen yang digunakan terdiri dari tes kemampuan matematika siswa, tes kemampuan komunikasi matematik siswa dan lembar observasi. Instrumen tersebut dinyatakan telah memenuhi syarat validitas dengan koefisien reliabilitas sebesar 0,78 untuk kemampuan komunikasi matematik.

Analisis data dilakukan dengan menggunakan uji Mann Whitney U, ANAVA Dua dan Satu Jalur. Hasil penelitian ini menunjukkan bahwa peningkatan kemampuan komunikasi matematik siswa yang diberi strategi pembelajaran kooperatif tipe TTW secara signifikan lebih baik dibandingkan dengan siswa yang diberi strategi pembelajaran ekspositori; tidak terdapat perbedaan peningkatan kemampuan komunikasi matematik siswa antara siswa berkemampuan matematika tinggi, sedang dan rendah; tidak terdapat interaksi antara pendekatan pembelajaran dan kemampuan matematika siswa terhadap peningkatan kemampuan komunikasi matematik; dan tidak terdapat perbedaan peningkatan kemampuan komunikasi matematik yang signifikan antara siswa berkemampuan matematika tinggi, sedang dan rendah yang diberi strategi pembelajaran kooperatif tipe TTW.

## ABSTRACT

**MACHRANI ADI PUTRI SIREGAR.** Analysis of the Mathematical Communication Ability of Junior High School through the Cooperative Learning Strategy with *Think-Talk-Write* type. Thesis of Mathematics Educational Program of Graduate School of State University of Medan. 2013.

The purposes of this research are to examine: (1) the increasing of students' mathematical communication ability for those who obtained the Cooperative Learning Strategy with *Think-Talk-Write* type and the Expository Learning Strategy; (2) the increasing of students' mathematical communication ability for those who have high, middle and low math skills; (3) the interaction between learning strategy with math skills against the increasing of students' mathematical communication ability; (4) the increasing of students' mathematical communication ability for those who obtained the Cooperative Learning Strategy with *Think-Talk-Write* type in terms of their math skills; (5) form of students' problem solving processes in each of learning strategy.

This research is a quasi-experimental. The population of this research is all of the seventh grade students in SMP Negeri 28 Medan who have more than one learning group. Randomly, two classes with the same ability were chosen to classify the experiment class and control class. The experiment class is treated with the Cooperative Learning Strategy with *Think-Talk-Write* type, while the control class is treated with the expository learning strategy. The used instruments consist of: students' mathematical ability test, students' mathematical communication ability test and observation sheet. The validity requirements of those instruments have been declared with the score of reliability coefficient is 0,78 for mathematical communication ability.

The data analyses has been done by using the test of Mann Whitney U, ANOVA two and one way. The result of this research showed that students who are learning with the Cooperative Learning Strategy with *Think-Talk-Write* type is significantly better in improving mathematical communication ability compared with students who are learning with Expository Learning Strategy; there are no difference in increasing the mathematical communication ability between the students who have the high, middle and low math skills; there are no interaction between the learning strategy with the students' math skills to the increasing of students' mathematical communication ability; there are no difference in the increasing of students' mathematical communication ability between the students who have the high, middle and low math skills who have been treated with the Cooperative Learning Strategy with *Think-Talk-Write* type.