

## ABSTRAK

**PUTRI MAISYARAH AMMY.** Perbedaan Kemampuan Pemahaman Konsep dan Komunikasi Matematik antara Siswa yang diberi Pembelajaran Kooperatif Tipe *Think-Talk-Write* (TTW) dengan Pembelajaran Langsung. Tesis. Medan: Program Studi Pendidikan Matematika Pasca Sarjana Universitas Negeri Medan, 2013.

**Kata Kunci:** Model Pembelajaran Kooperatif Tipe *Think-Talk-Write*, Kemampuan Pemahaman Konsep dan Komunikasi Matematik

Tujuan dari penelitian ini untuk mengetahui: (1) Perbedaan kemampuan pemahaman konsep matematik antara siswa yang diberi model pembelajaran kooperatif tipe *Think-Talk-Write* dengan model pembelajaran langsung. (2) Perbedaan kemampuan komunikasi matematik antara siswa yang diberi model pembelajaran kooperatif tipe *Think-Talk-Write* dengan model pembelajaran langsung. (3) Mendeskripsikan kadar aktivitas aktif siswa selama proses pembelajaran kooperatif tipe *Think-Talk-Write*. (4) Mendeskripsikan proses penyelesaian jawaban siswa pada pembelajaran kooperatif tipe *Think-Talk-Write* dan siswa yang diberikan pembelajaran langsung.

Penelitian ini merupakan penelitian semi eksperimen. Populasi penelitian ini adalah siswa kelas VII SMP Muhammadiyah 1 Medan. Kemudian secara acak dipilih dua kelas dari enam kelas. Kelas eksperimen diberi perlakuan model pembelajaran kooperatif tipe *Think-Talk-Write* dan kelas kontrol diberi perlakuan model pembelajaran langsung. Instrument yang digunakan terdiri dari, (1) Tes kemampuan pemahaman konsep matematik, (2) Tes kemampuan komunikasi matematik, dan (3) Lembar observasi siswa. Instrumen tersebut dinyatakan telah memenuhi syarat validitas isi, serta koefisien reliabilitas sebesar 0,69 dan 0,52 berturut-turut untuk kemampuan pemahaman konsep matematik dan komunikasi matematik.

Analisis data dilakukan dengan analisis kovarian (ANACOVA). Hasil penelitian menunjukkan bahwa (1) Terdapat perbedaan kemampuan pemahaman konsep matematik antara siswa yang diberi model pembelajaran kooperatif tipe *Think-Talk-Write* dengan model pembelajaran langsung. Hal ini terlihat dari hasil ANACOVA untuk  $F_{hitung} = 37,457$  lebih besar  $F_{tabel}$  adalah 4,01. Konstanta persamaan regresi untuk model pembelajaran kooperatif tipe *Think-Talk-Write*, yaitu 27,027 lebih besar dari model pembelajaran langsung, yaitu 26,454. (2) Terdapat perbedaan kemampuan komunikasi matematik antara siswa yang diberi model pembelajaran kooperatif tipe *Think-Talk-Write* dengan model pembelajaran langsung. Hal ini terlihat dari hasil ANACOVA untuk  $F_{hitung} = 43,72$  lebih besar  $F_{tabel}$  adalah 4,01. Konstanta persamaan regresi untuk model pembelajaran kooperatif tipe *Think-Talk-Write* yaitu 9,899 lebih besar dari model pembelajaran langsung yaitu 2,271. (3) Kadar aktivitas aktif siswa telah memenuhi waktu persentase ideal yang telah ditetapkan. (4) Proses penyelesaian jawaban siswa yang pembelajarannya dengan menggunakan model pembelajaran kooperatif tipe *Think-Talk-Write* lebih baik dibandingkan dengan model pembelajaran langsung.

## ABSTRACT

**PUTRI MAISYARAH AMMY. Differences of Mathematics Conceptual Understanding and Communication ability between Students Given Learning Cooperative Type *Think-Talk-Write* (TTW) With Direct Instruction.** Thesis. Medan: Mathematics Education Program Post-Graduate Studies, State University of Medan, 2013.

**Keywords:** Learning Cooperative Type *Think-Talk-Write* Model, Mathematics Conceptual Understanding, and Communication

The purposes of this study were to investigate: (1) Differences in mathematics conceptual understanding ability among students who are given a learning cooperative type *Think-Talk-Write* model with students who were given direct learning model. (2) Differences in mathematics communication skills among students who are given a learning cooperative type *Think-Talk-Write* model with students who were given direct learning model. (3) To describe the active activity of student during learning cooperative type *Think-Talk-Write*. (4) To describe the accomplishing of student answers in learning cooperative type *Think-Talk-Write* and direct learning.

This was a semi-experimental study. The population was first grade students of SMP Muhammadiyah 1 Medan. Then randomly selected two classes of six grade. The experimental class were given learning cooperative type *Think-Talk-Write* model and control classes were subjected to direct teaching model. The instruments consisted of: (1) Mathematics conceptual understanding test, (2) Mathematical communication test, and (3) Observation sheet. The instrument has been declared eligible content validity, and reliability coefficient of 0,69 and 0,52 respectively for mathematics conceptual understanding and mathematical communication.

Data analysis was performed by analysis of covariance (ANACOVA). The results showed that (1) There are differences in mathematics conceptual understanding among students who are given a model of learning cooperative type *Think-Talk-Write* with students who were direct instruction model. This is evident from the results ANACOVA to  $F_{hitung} = 23,64$  is greater  $F_{tabel} 4,01$ . Constants of regression equations to model problem-based learning that is 27,027 greater than the direct learning model is 26,454. (2) There are differences in mathematics communication among students who are given a mathematical model of learning cooperative type *Think-Talk-Write* with students who were direct instruction model. This is evident from the results ANACOVA to  $F_{hitung} = 24,98$  is greater  $F_{tabel} 4,01$ . Constants of regression equations to model problem-based learning that is 9,899 greater than the direct learning model is 2,271. (3) The activity levels of active student has met the ideal percentage of time set out in chapter III. (4) the completing of students answers that are taught by learning cooperative type *Think-Talk-Write* model are better than students whom are taught by using direct instruction model.