# ABSTRAK

**AMOS HERMANTA TARIGAN. Perbedaan Kemampuan Berpikir Kreatif dan Pemecahan Masalah Matematis Siswa dalam Penerapan Model Pembelajaran Berbasis Masalah Berbantuan *Open Ended Problem* dan Pembelajaran Langsung di Kelas VIII SMP**. Tesis. Medan: Program Studi Pendidikan Matematika Pasca Sarjana Universitas Negeri Medan, 2015.

Penelitian ini dilakukan berdasarkan rendahnya kemampuan berpikir kreatif dan pemecahan masalah matematis siswa. Tujuan dari penelitian ini untuk mengetahui: (1) apakah kemampuan berpikir kreatif siswa dalam penerapan model pembelajaran pembelajaran berbasis masalah berbantuan *open ended problem* lebih tinggi dari pembelajaran langsung, (2) apakah kemampuan pemecahan masalah matematis siswa dalam penerapan model pembelajaran pembelajaran berbasis masalah berbantuan *open ended problem* lebih tinggi dari pembelajaran langsung, (3) kadar aktivitas aktif siswa selama pembelajaran berbasis masalah berbantuan *open ended problem* (4) tingkat kemampuan guru dalam mengelola kelas dalam penerapan model pembelajaran berbasis masalah berbantuan *open ended problem*, (5) proses jawaban siswa dalam penerapan model pembelajaran berbasis masalah berbantuan *open ended problem*.

Penelitian ini merupakan penelitian eksperimen semu. Populasi penelitian ini adalah seluruh siswa kelas VIII SMPN 1 Namorambe yang terdiri dari 6 kelas paralel. Dari seluruh siswa kelas VIII dipilih siswa sebanyak dua kelas sebagai sampel. Kelas eksperimen diberi perlakuan model pembelajaran berbasis masalah dan kelas kontrol diberi perlakuan model pengajaran langsung.

Dalam penelitian ini telah dikembangkan beberapa perangkat pembelajaran seperti RPP dan LAS. Instrumen yang digunakan untuk mengumpulkan data dalam penelitian ini yaitu: (1) tes kemampuan berpikir kreatif, (2) tes kemampuan pemecahan masalah, (3) lembar aktivitas aktif siswa, dan (4) lembar observasi tingkat kemampuan guru mengelola pembelajaran. Tes yang digunakan adalah berbentuk uraian yang telah dinyatakan valid dan reliabel dengan koefisien reliabilitas sebesar 0,819 dan 0,842.

Analisis deskriptif ditujukan untuk mendeskripsikan aktivitas aktif siswa, kemampuan guru mengelola pembelajaran, dan proses jawaban siswa. Analisis inferensial data dilakukan dengan analisis kovarians (ANACOVA). Hasil penelitian menunjukkan bahwa: (1) Kemampuan berpikir kreatif siswa dalam penerapan model pembelajaran berbasis masalah berbantuan *open ended problem* lebih tinggi dari pembelajaran langsung. Hal ini terlihat dari hasil ANACOVA untuk $F_{hitung}$ =12,54 lebih besar dari $F_{tabel}$ = 4,01. (2) Kemampuan pemecahan masalah matematis siswa dalam penerapan model pembelajaran berbasis masalah berbantuan *open ended problem* lebih tinggi dari pembelajaran langsung. Hal ini terlihat dari hasil ANACOVA untuk $F_{hitung}$ =10,97 lebih besar dari $F_{tabel}$ = 4,01. (3) Kadar aktivitas aktif siswa selama penerapan model pembelajaran berbasis masalah memenuhi toleransi waktu ideal, (4) Kemampuan guru mengelola pembelajaran selama pembelajaran berbasis masalah masuk kedalam kriteria cukup baik, dan (5) Proses jawaban siswa dengan mengunakan model pembelajaran berbasis masalah berbantuan *open ended problem* lebih baik dari pembelajaran langsung.

# ABSTRACT

**AMOS HERMANTA TARIGAN.** Differences in Creative Thinking Ability and Mathematical Problem Solving Students in Application of Problem Based Learning Model Assisted Open Ended Problem and Direct Instruction in Class VIII SMP. Thesis. Medan: Mathematics Education Post-Graduate Program, State University of Medan, 2015.

This study was conducted based on low creative thinking ability and mathematical problems solving ability of students. The aim of this study was to determine: (1) whether the creative thinking abilities of students in application of problem based learning models assisted open ended problem is higher than direct instruction, (2) whether the mathematical problem solving abilities students in application of problem based learning model assisted open ended problem is higher than direct instruction, (3) the levels of activity of active students during problem based learning assisted open ended problem, (4) the level of ability of teacher to manage classes in application of problem based learning model assisted open ended problems, (5) the student answers in the application of problem based learning model assisted open ended problem.

This study is a quasi experimental research. The study population was all students of class VIII SMPN 1 Namorambe consisting of six parallel classes. Of all students in grade VIII students of two classes selected for the sample. The experimental class were treated model of problem based learning and control class were treated direct instruction.

In this research has developed several learning tools such as lesson plan and student activity sheets. The instrument used to collect data in this study are: (1) test the ability of creative thinking, (2) test problem-solving ability, (3) active student activity sheet, and (4) the observation sheet the teacher's ability to manage learning level. The tests were used is in the form of a description. The test has been declared valid and reliable by the reliability coefficient of 0.819 and 0.842.

Descriptive analysis is intended to describe the activity of active students, the teacher's ability to manage learning, and the students' answers. Inferential analysis of data was done by analysis of covariance (ANACOVA). The results showed that: (1) The ability of creative thinking of students in the application of problem-based learning model assisted open ended problem is higher than direct instruction. This is evident from the results ANACOVA to $F^* = 12.54$ is greater than $F_{table} = 4.01$. (2) mathematical problem solving ability of students in the application of problem-based learning model-assisted open ended problem is higher than direct instruction. This is evident from the results ANACOVA to $F^* = 10.97$ is greater than $F_{table} = 4.01$ (3) active activity levels of students during the application of problem-based learning model meets the ideal time tolerance, (4) the ability of teachers to manage learning for problem based learning entry into the criteria fairly well, and (5) The process of student answers by using problem-based learning model assisted open ended problem better than direct instruction.