

## ABSTRAK

**SRI RAHWANY MARBUN. Perbedaan Peningkatan Kemampuan Pemahaman Konsep Matematis dan Motivasi Belajar Siswa dengan Pendekatan Penemuan Terbimbing Berbantuan Software Geogebra Dan Model Pembelajaran Langsung.** Tesis. Medan: Program Pascasarjana Universitas Negeri Medan, 2019.

Penelitian ini bertujuan untuk menganalisis: (1) Apakah terdapat perbedaan peningkatan kemampuan pemahaman konsep matematis siswa yang memperoleh pembelajaran dengan model pembelajaran penemuan terbimbing berbantuan software geogebra dengan siswa yang memperoleh pembelajaran langsung, (2) Apakah terdapat perbedaan peningkatan motivasi belajar siswa yang memperoleh model pembelajaran penemuan terbimbing berbantuan software geogebra dengan siswa yang memperoleh pembelajaran langsung, (3) Apakah terdapat interaksi antara model pembelajaran penemuan terbimbing berbantuan software Geogebra dan kemampuan awal matematis siswa terhadap kemampuan pemahaman konsep matematika siswa, (4) Apakah terdapat interaksi antara pembelajaran penemuan terbimbing berbantuan software Geogebra dan kemampuan awal matematis siswa terhadap motivasi belajar siswa. Penelitian ini merupakan penelitian eksperimen semu. Populasi penelitian ini adalah siswa kelas VIII MTs Negeri Barus. Sampel penelitian diambil secara acak sehingga diperoleh dua kelas sampel. Kelas eksperimen I mendapat model pembelajaran penemuan terbimbing berbantuan *Software Geogebra* dan kelas eksperimen II mendapat model pembelajaran langsung. Instrumen yang digunakan terdiri dari tes kemampuan pemahaman konsep matematis dan angket motivasi belajar. Analisis data dilakukan dengan analisis kovarian (*ANACOVA*) dan *N-Gain*. Hasil penelitian menunjukkan bahwa (1) Terdapat perbedaan peningkatan kemampuan pemahaman konsep matematis siswa yang diberi model pembelajaran penemuan terbimbing berbantuan *software geogebra* dengan siswa yang memperoleh pembelajaran langsung, (2) Terdapat perbedaan peningkatan motivasi belajar siswa yang diberi model pembelajaran penemuan terbimbing berbantuan *software geogebra* dengan siswa yang memperoleh pembelajaran langsung, (3) Tidak terdapat interaksi antara pembelajaran penemuan terbimbing berbantuan software geogebra dengan kemampuan awal matematis terhadap kemampuan pemahaman konsep matematis siswa, (4) Tidak terdapat interaksi antara pembelajaran penemuan terbimbing berbantuan software geogebra dengan kemampuan awal matematis terhadap motivasi belajar matematis siswa. Berdasarkan hasil penelitian, maka peneliti menyarankan agar guru menggunakan model penemuan terbimbing berbantuan software geogebra pada pembelajaran matematika sebagai salah satu alternatif dalam pembelajaran matematika yang inovatif.

## ABSTRACT

**SRI RAHWANY MARBUN. The Differences of This Improvement In Understanding Of Mathematical Concept And Motivation Learning Student Get Guided Discovery Learning Approach Assisted By Geogebra Software and Direct Instruction.** Thesis. Medan: Post Graduate Program Medan State University, 2016.

The aims of this research were to analyze : (1) The differences of the improvement of Understanding Of Mathematical Concepts And Motivation Learning between Student Get Guided Discovery Learning Approach Assisted By Geogebra Software and the students who got direct instruction, (2) The differences of the improvement of motivation learning between students who got guided discovery learning approach assisted by the *geogebra software* and the students who were got direct instruction, (3) Is any interactions between the guided discovery learning assisted by Geogebra software and the students initial mathematical ability toward understanding students mathematical understanding concepts ability, (4) Is there any interaction between guided discovery learning assisted by Geogebra software and students initial mathematical abilities towards student learning. This research is a quasi experiment. Population is students of MTsN Barus. Sample was taken by using simple random sampling so that two classes were obtained. The experimental class is treated with guided discovery learning approach assisted by *Geogebra Software* and the control class is treated with direct instruction. The instrument used consist of a test of understanding of mathematical concept and motivation questionnaire. Data were analyzed by using analysis of covariance (ANCOVA) and N-Gain. The results of study show that (1) There is difference of the improvement of understanding of mathematical concepts between students who got guided discovery learning approach assisted by Geogebra Software and the students who were got direct instruction, (2) There is difference of the improvement motivation learning between students who were got guided discovery learning approach assisted by Geogebra Software and the students who were got direct instruction, (3) There is no interaction between guided discovery learning assisted by geogebra software and mathematical initial ability to understanding students 'mathematical concepts, (4) There is no interaction between guided discovery learning assisted by geogebra software and mathematical initial abilities on students' mathematical learning motivation. Based on this research, the researcher suggested that teachers use guided discovery learning approach assisted by Geogebra Software can be used as an alternative in innovative mathematics learning.