ABSTRAK

NAILUL HIMMI HASIBUAN. Perbedaan Kemampuan Berpikir Kritis Matematis dan Self Efficacy Siswa antara Pembelajaran Berbasis Masalah Berbantuan *Geogebra* dengan Pembelajaran Berbasis Masalah Berbantuan *Autograph* di MAN 1 Medan. Tesis. Medan: Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan. 2015.

Penelitian ini bertujuan untuk mengetahui: (1) Perbedaan kemampuan berpikir kritis matematis antara siswa yang diajarkan dengan pembelajaran berbasis masalah berbantuan *geogebra* dan *autograph*. (2) Interaksi antara model pembelajaran dan *gender* terhadap kemampuan berpikir kritis matematis siswa. (3) Perbedaan *self efficacy* antara siswa yang diajarkan dengan pembelajaran berbasis masalah berbantuan *geogebra* dan *autograph.* (4) Interaksi antara model pembelajaran dan *gender* terhadap *self efficacy* siswa. (5) Deksripsi proses penyelesaian jawaban siswa terhadap kemampuan berpikir kritis matematis. Jenis penelitian *quasi eksperiment*. Populasi seluruh siswa MAN 1 Medan. Sampel menggunakan teknik *purposive sampling.* Kelas XI IPA 3 (41 siswa) diajarkan dengan PBM berbantuan geogebra dan kelas XI IPA 4 (43 siswa) diajarkan dengan PBM berbantuan *Autograph*. Instrumen yang digunakan terdiri dari tes kemampuan berpikir kritis matematis dan angket *self eficacy.* Analisis yang dilakukan menggunakan ANACOVA. Hasil penelitian menunjukkan bahwa: (1) Terdapat perbedaan signifikan terhadap kemampuan berpikir kritis matematis antara siswa yang diajarkan dengan pembelajaran berbasis masalah berbantuan *geogebra* dengan *Autograph* (signifikan 0.000). (2) Tidak terdapat interaksi signifikan antara model pembelajaran dan *gender* terhadap kemampuan berpikir kritis matematis siswa (signifikan 0.313). (3) Terdapat perbedaan signifikan terhadap *self efficacy* antara siswa yang diajarkan dengan pembelajaran berbasis masalah berbantuan *geogebra* dengan *Autograph* (signifikan 0.007) (4) Tidak terdapat interaksi signifikan antara model pembelajaran dan *gender* terhadap *self efficacy* siswa (signifikan 0.831). (5) Proses penyelesaian jawaban siswa dengan pembelajaran berbasis masalah berbantuan geogebra lebih baik dibandingkan dengan *Autograph*.

Kata kunci: Berpikir Kritis, *Self Efficaccy*, Pembelajaran Berbasis Masalah, *Geogebra, Autograph*

ABSTRACT

NAILUL HIMMI HASIBUAN. Differences for Students' Mathematical of Critical Thinking Skills Mathematics and Self Efficacy between Problem Based Learning by Geogebra with Problem Based Learning by Autograph in MAN 1 Medan. Thesis. Medan: Mathematics Education Post Graduate Program, State University of Medan. 2015.

The aims of this research to know about: (1) Differences for students' mathematical critical thinking skills between problem-based learning by Geogebra and Autograph. (2) The interaction between gender and learning model for students' critical thinking skills mathematics. (3) The difference students' self efficacy between problem-based learning by Geogebra and Autograph. (4) the interaction between gender and learning model for students' self efficacy. (5) description of answer proses in critical thinking skills. This research is a quasi experiment. Population is students of MAN 1 Medan. Samples using purposive sampling. Class XI IPA 3 (41 students) was taught by PBM by GeoGebra and class XI IPA 4 (43 students) was taught by PBM by Autograph. The instrument used consisted of a test of critical thinking skills and self eficacy questionnaire. Analysis is done using ANACOVA. The results showed that: (1) There are significant differences for students' mathematical critical thinking skills between problem-based learning by Geogebra and Autograph with sig(0.000). (2) There is no significant interaction between gender and learning model for students' mathematical of critical thinking with sig(0.313). (3) There are significant differences between the students' self-efficacy between problem-based learning by Geogebra and Autograph with sig (0.007). (4) There is no significant interaction between gender and learning model for students' self efficacy with sig (0.813). (5) description of answer proses in critical thinking skills by PBM by geogebra better than PBM Autograph

Keywords: Critical Thinking, Self Efficaccy, Problem Based Learning, GeoGebra, Autograph