

ABSTRAK

KHAIRUNNISA. Peningkatan Kemampuan Penalaran dan Berpikir Kreatif Matematis Siswa Sekolah Menengah Pertama Melalui Pendekatan *Open-ended* Berdasarkan *Gender* Siswa. Tesis Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan 2012.

Kata Kunci: Pendekatan *Open-ended*, Penalaran, Berpikir Kreatif, *Gender*.

Tujuan penelitian ini adalah: (1) mengetahui peningkatan kemampuan penalaran matematis siswa yang memperoleh pendekatan *open-ended* lebih baik dibanding siswa yang memperoleh pembelajaran biasa, (2) mengetahui peningkatan kemampuan berpikir kreatif matematis siswa yang memperoleh pendekatan *open-ended* lebih baik dibanding siswa yang memperoleh pembelajaran biasa, (3) mengetahui perbedaan peningkatan kemampuan penalaran matematis siswa berdasarkan *gender* siswa melalui pendekatan *open-ended*, (4) mengetahui adanya perbedaan peningkatan kemampuan berpikir kreatif matematis siswa berdasarkan *gender* siswa melalui pendekatan *open-ended*, (5) mengetahui interaksi antara pendekatan pembelajaran dengan *gender* terhadap kemampuan penalaran, (6) mengetahui interaksi antara pendekatan pembelajaran dengan *gender* terhadap kemampuan berpikir kreatif.

Penelitian ini merupakan penelitian kuasi eksperimen. Populasi penelitian ini adalah seluruh siswa kelas VIII SMP Swasta Muhammadiyah Kota Medan yang berakreditasi A. Sampel diambil dari dua sekolah yang dipilih secara acak dari populasi yaitu siswa kelas VIII-2 SMP Swasta Muhammadiyah 1 Medan sebagai kelas eksperimen yang diberi perlakuan pendekatan *open-ended* dan siswa kelas VIII-1 SMP Swasta Muhammadiyah 7 Medan sebagai kelas kontrol yang diberi perlakuan pembelajaran biasa. Instrumen yang digunakan terdiri dari: tes kemampuan penalaran dan tes kemampuan berpikir kreatif. Instrumen tersebut dinyatakan telah memenuhi syarat validitas isi serta koefisien reliabilitas 0,7021 untuk kemampuan penalaran dan 0,6188 untuk kemampuan berpikir kreatif. Analisis data dilakukan dengan uji t dan anava dua jalur.

Hasil penelitian ini adalah: (1) Peningkatan kemampuan penalaran matematis siswa yang memperoleh pendekatan *open-ended* lebih baik dibandingkan siswa yang menggunakan pembelajaran biasa, (2) Peningkatan kemampuan berpikir kreatif matematis siswa yang memperoleh pendekatan *open-ended* lebih baik dibandingkan siswa yang menggunakan pembelajaran biasa, (3) *Gender* laki-laki dan perempuan memiliki peningkatan kemampuan penalaran yang sama pada pembelajaran yang menggunakan pendekatan *open-ended*, (4) *Gender* laki-laki dan perempuan memiliki peningkatan kemampuan berpikir kreatif yang sama pada pembelajaran yang menggunakan pendekatan *open-ended*, (5) Tidak ada interaksi antara pendekatan pembelajaran dengan *gender* siswa terhadap kemampuan penalaran, dan (6) Tidak ada interaksi antara pendekatan pembelajaran dengan *gender* siswa terhadap kemampuan berpikir kreatif.

Berdasarkan hasil penelitian, maka peneliti menyarankan: pendekatan *open-ended* pada pembelajaran matematika untuk meningkatkan kemampuan penalaran dan berpikir kreatif siswa dapat dijadikan sebagai salah satu alternatif untuk menerapkan pembelajaran matematika yang inovatif. (2) Diharapkan guru matematika dapat menciptakan suasana belajar yang memberi kesempatan pada siswa untuk mengungkapkan gagasannya dalam bahasa dan cara mereka sendiri.

ABSTRACT

KHAIRUNNISA. The Increasing of Reasoning Competence and Creative Math Thinking of Students of Junior High School Through Open-ended Approach Based on Students Gender. Thesis Study Programs Postgraduate Mathematics Education State University of Medan in the academic year of 2012.

Keywords: Open-ended Approach, Reasoning, Creative Thinking, Gender.

The aims of this study are: (1) to figure out whether the increasing of mathematical reasoning abilities of students those taught by open-ended approach is better than students those taught by regular learning, (2) to know whether an increasing in creative mathematical thinking skills of students who received open-ended approach is better than those who received study regular, (3) to know the difference of increasing in mathematical reasoning abilities based on student genders taught by open-ended approach, (4) to know the difference from the increasing in creative math thinking skills based on student genders taught by open-ended approach, (5) to know the interaction between learning approach and gender toward the ability reasoning, (6) to know the interaction between learning approach and gender toward the creative math thinking.

This study is a quasi-experimental study. The population of study was all class VIII students of SMP Muhammadiyah Medan accredited A. The samples were selected from two schools chooses randomly of populations are VIII-2's students SMP Muhammadiyah 1 Medan as experiment class that were treated given open-ended approach and VIII-1's students SMP Muhammadiyah 7 Medan as control class that were treated given regular learning. The instrument used consisted of: testing the ability of reasoning and creative thinking skill tests. The instrument used consisted of: a test of reasoning competence and creative math thinking test. Those instruments have been declared eligible content validity, and reliability coefficient of 0.7021 for reasoning competence and 0.6188 for creative math thinking. The Data analysis was performed with t test and two-way ANAVA.

The results of this study are (1) students who study with open-ended approach significantly is better in mathematical reasoning skill than the students who use ordinary learning. (2) students who study with open-ended approach significantly are better in the creative math thinking than students who use ordinary learning. (3) the gender have the same increasing of reasoning ability with open-ended approach. (4) the gender have the same increasing in creative math thinking in learning with open-ended approach. (5) From this study, it is also obtained the result that there is no interaction between students genders approach with students ability of reasoning (6) Then, from this study, it is also obtained the result that there is no interaction between students gender approach and the ability of creative thinking.

Based on the results of the study, the researcher recommends that: (1) open-ended approach in mathematics learning that emphasizes reasoning competence and creative math thinking can be used as an alternative for implementing innovative math learning. (2) Mathematics teacher are expected to be creating a conducive learning environment which provide students with opportunities to express their ideas in their own languages and ways.