

ABSTRACT

BAITI AKMAL. Ability differences Mathematics Problem Solving, Mathematical representation and Students' Motivation who were Given to Problem-Based Learning with Autograph and without Autograph. Thesis. Medan: Mathematics Education Program Post-Graduate Studies, State University of Medan, 2015.

The purpose of the study to identify: (1) Ability differences Mathematics problem solving between the students learning through problem-based learning model with autograph and the students learning through problem-based learning model without autograph. (2) Ability differences in mathematical representation between the students learning through problem-based learning model with autograph and the students learning through problem-based learning model without autograph. (3) Differences in learning motivation between the students learning through problem-based learning model with autograph and the students learning through problem-based learning model without autograph. (4) Quality of the activity in student learning during process to direct problem-based. (5) Process of problem-solving that made the student in solving problem in each lesson.

This study is quasi-experimental study. This population of this study is a class XI in SMA Negeri 1 Medan and selected two classes XI from 13 classes in SMA Negeri 1 Medan randomly. Experimental class 1 are given problem-based learning model without autograph and experimental class 2 are given problem-based learning model with autograph. The instrument used consists: (1) test the ability of solving mathematical problems, (2) test the ability of mathematical representation, (3) the motivation questionnaire and (4) the observation sheet.

Data analysis was used t-test $\alpha = 0.05$ after the data are fulfilled with SPSS 22. The result showed that (1) there are differences in mathematical problem-solving skill between the student who were given problem-based learning with autograph and student who were given problem-based learning without autograph. (2) There are differences in mathematical representation between the student who were given problem-based learning with autograph and student who were given problem-based learning without autograph. (3) There are differences in learning motivation between the student who were given problem-based learning with autograph and student who were given problem-based learning without autograph. (4) The quality of student in learning used problem-based learning with autograph model is better or more active than problem-based learning without autograph model. (5) The process of problem solving used problem-based learning with autograph model is better than problem-based learning without autograph model.

Keywords: Problem-Based Learning Model, Problem Solving, Mathematical representation and Motivation.

ABSTRAK

BAITI AKMAL. Perbedaan Kemampuan Pemecahan Masalah, Representasi Matematika dan Motivasi Belajar Siswa yang Diberi Pembelajaran Berbasis Masalah Berbantuan Autograph dan Tanpa Autograph. Tesis. Medan: Program Studi Pendidikan Matematika Pasca Sarjana Universitas Negeri Medan, 2015.

Tujuan dari penelitian ini untuk mengetahui: (1) Perbedaan kemampuan pemecahan masalah antara siswa yang mendapat pembelajaran melalui model pembelajaran berbasis masalah berbantuan autograph dengan siswa yang mendapat pembelajaran melalui model pembelajaran berbasis masalah tanpa autograph. (2) Perbedaan kemampuan representasi antara siswa yang mendapat pembelajaran melalui model pembelajaran berbasis masalah berbantuan autograph dengan siswa yang mendapat pembelajaran melalui model pembelajaran berbasis masalah tanpa autograph. (3) Perbedaan motivasi belajar antara siswa yang mendapat pembelajaran melalui model pembelajaran berbasis masalah berbantuan autograph dengan siswa yang mendapat pembelajaran melalui model pembelajaran berbasis masalah tanpa autograph (4) Kadar aktivitas belajar siswa selama proses pembelajaran dengan model pembelajaran berbasis masalah berlangsung. (5) Proses penyelesaian masalah yang dibuat siswa dalam menyelesaikan masalah pada masing-masing pembelajaran.

Penelitian ini merupakan penelitian *quasi eksperimen*. Populasi penelitian ini adalah siswa kelas XI SMA Negeri 1 Medan dan mengambil 2 sampel kelas XI SMA Negeri 1 Medan secara acak dari 13 kelas. Kelas eksperimen 1 diberi perlakuan model pembelajaran berbasis masalah tanpa autograph dan kelas eksperimen 2 diberi perlakuan model pembelajaran berbasis masalah berbantuan autograph. Instrumen yang digunakan terdiri dari: (1) tes kemampuan pemecahan masalah matematika, (2) tes kemampuan representasi matematika dan (3) Angket motivasi (4) lembar observasi.

Analisis data digunakan uji-*t* pada $\alpha = 0,05$ setelah prasyarat pengujian terpenuhi dengan menggunakan program SPSS 22. Hasil penelitian menunjukkan bahwa (1) Terdapat perbedaan kemampuan pemecahan masalah matematika antara siswa yang mendapat pembelajaran berbasis masalah berbantuan autograph dengan siswa yang mendapat pembelajaran berbasis masalah tanpa autograph (2) Terdapat perbedaan kemampuan representasi matematika antara siswa yang mendapat pembelajaran berbasis masalah berbantuan autograph dengan siswa yang mendapat pembelajaran berbasis masalah tanpa autograph. (3) Terdapat perbedaan motivasi belajar antara siswa yang mendapat pembelajaran berbasis masalah berbantuan autograph dengan siswa yang mendapat pembelajaran berbasis masalah tanpa autograph. (4) Aktivitas siswa yang pembelajarannya dengan menggunakan model pembelajaran berbasis masalah berbantuan autograph lebih baik/lebih aktif dibandingkan dengan model pembelajaran berbasis masalah tanpa autograph (5) Proses penyelesaian jawaban siswa yang pembelajarannya dengan menggunakan model pembelajaran berbasis masalah berbantuan autograph lebih baik dibandingkan dengan model pembelajaran berbasis masalah tanpa autograph.

Kata Kunci: Model Pembelajaran Berbasis Masalah, Pemecahan Masalah, Representasi Matematika dan Motivasi