

ABSTRAK

LOLA MANDASARI. Peningkatan Kemampuan Berpikir Kreatif dan Pemecahan Masalah Matematis Siswa SMA melalui Model *Problem Based Learning* dan *Problem Based Learning* Menggunakan Software Autograph. Tesis. Medan. 2013. Program Studi Pendidikan Matematika Program Pascasarjana Universitas Negeri Medan (UNIMED).

Tujuan penelitian ini adalah untuk mengetahui: (1) peningkatan kemampuan berpikir kreatif dan pemecahan masalah matematis siswa SMA yang diberi model *problem based learning* menggunakan software autograph dan model *problem based learning*. (2) interaksi antara kemampuan awal matematis siswa dengan model pembelajaran terhadap kemampuan berfikir kreatif matematis. (3) interaksi antara kemampuan awal matematis siswa dengan model pembelajaran terhadap kemampuan pemecahan masalah matematis siswa (4) proses penyelesaian masalah kemampuan berfikir kreatif dan pemecahan masalah matematis siswa melalui *problem based learning* menggunakan software autograph.

Jenis Penelitian ini merupakan penelitian quasi eksperimen di SMA Swasta Panca Budi Medan. Pemilihan sampel yang dijadikan kelompok eksperimen dan kelompok kontrol dilakukan secara random. Sampel diambil dua kelas secara acak. Kelas eksperimen memperoleh *problem based learning* menggunakan software autograph. Dan kelas kontrol dengan pembelajaran biasa. Instrumen yang digunakan adalah tes kemampuan kreatif dan pemecahan masalah matematis. Reliabilitas untuk kemampuan kreatif dan pemecahan masalah adalah 0,833 dan 0,842.

Data dalam penelitian ini dianalisis dengan Manova untuk melihat peningkatan kemampuan berpikir kreatif dan pemecahan masalah matematis siswa melalui model *Problem Based Learning* menggunakan software Autograph. Uji Anova untuk mengetahui interaksi kemampuan awal siswa dengan model pembelajaran yang digunakan. Dan analisis deskriptif untuk melihat proses penyelesaian masalah kemampuan berfikir kreatif dan pemecahan masalah matematis siswa melalui *problem based learning* menggunakan software autograph

Hasil penelitian menunjukkan bahwa: (1) Peningkatan kemampuan berpikir kreatif dan pemecahan masalah matematis siswa yang diberi *problem based learning* menggunakan software autograph lebih baik daripada siswa yang diberi pembelajaran biasa. Peningkatan kemampuan berfikir kreatif dan pemecahan masalah untuk kelompok eksperimen adalah 0,8 dan 0,7 dengan kategori tinggi dan kelas kontrol 0,3 dan 0,3 dengan kategori sedang. (2) tidak terdapat interaksi antara kemampuan awal matematis siswa dengan model pembelajaran terhadap kemampuan berfikir kreatif siswa. (3) tidak terdapat interaksi antara kemampuan awal matematis siswa dengan model pembelajaran terhadap kemampuan pemecahan masalah siswa. (4) Proses pemecahan masalah kemampuan berfikir kreatif dan pemecahan masalah matematis siswa melalui *problem based learning* menggunakan software autograph lebih baik lebih baik dari pembelajaran biasa.

ABSTRACT

LOLA MANDASARI. The Enhancement of Senior High School Students' Creative Thinking and Mathematical Problem Solving Ability through Problem Based Learning Model using Autograph Software. Thesis. Medan. 2013. Department Mathematics, Master of Degree Program, State University of Medan.

The aim of this research are to determine: (1) the enhancement of the creative thinking and mathematic problem solving ability of Senior High School Students through problem based learning using Autograph software and regular learning. (2) the interaction between the students' initial ability and the learning model used toward the students' ability of mathematic creatively thinking. (3) the interaction between the students' initial ability and the learning model used toward the students' ability of mathematic problem solving. (4) the completion process of the students' creative thinking and mathematic problem solving ability through problem based learning using autograph software.

This was quasi experimental research in Panca Budi Senior High School Medan. The group of the experiment sample and the control group are chosen by random. There are two classes are taken randomly. The experiment class gets Problem Based Learning using Autograph software and the control class gets Problem Based Learning. The instrument is the ability creative thinking and the mathematic problem solving. The reliability for creatively thinking ability and mathematic problem solving is 0.833 and 0.842.

The data was analyzed by using Manova to see the enhancement of students' creative thinking and mathematic problem solving ability through problem based learning using Autograph software. Anova test is used to determine the interaction between the students' initial ability and the model learning used. Descriptive analysis is used to see the process of the enhancement of students' ability creative thinking and the ability to solve the mathematic problem through problem based learning using Autograph software.

The result showed that: (1) the enhancement of students' creative thinking and mathematic problem solving ability that get Problem Based Learning using Autograph Software is better, with value increasing 0.8 and 0.7 in high category and 0.3 and 0.3 in medium category for regular class. (2) There is no interaction between the students' initial ability and the learning model used toward the students' creative thinking ability (3) There is no interaction between the students' initial ability and the learning model used toward the students' problem solving ability. (4) The completion process of the students' creative thinking and mathematic problem solving ability through problem based learning using autograph software is better than regular learning.