

ABSTRAK

Nur Adha, (2015). Peningkatan Kemampuan Pemecahan Masalah dan Motivasi Belajar Matematika Siswa Melalui Model Problem Based Learning Berbantuan Software Geogebra di SMP Aekkanopan. Tesis Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan, 2015.

Tujuan penelitian ini untuk mengetahui apakah : (1) peningkatan kemampuan pemecahan masalah matematika siswa yang memperoleh model *problem based learning* berbantuan *software geogebra* lebih tinggi daripada siswa yang memperoleh pembelajaran biasa, (2) peningkatan motivasi belajar matematika siswa yang memperoleh model *problem based learning* berbantuan *software geogebra* lebih tinggi daripada siswa yang memperoleh pembelajaran biasa, (3) terdapat interaksi antara model pembelajaran dengan sikap matematika siswa terhadap peningkatan kemampuan pemecahan masalah matematika siswa, (4) terdapat interaksi antara model pembelajaran dengan sikap matematika siswa terhadap peningkatan motivasi belajar matematika siswa, (5) proses penyelesaian masalah yang dibuat siswa dalam menyelesaikan soal pada masing-masing pembelajaran. Penelitian ini dilaksanakan di SMP Negeri 3 Kualuh Selatan dengan sampel 80 siswa dan SMP Swasta Sultan Hasanuddin dengan sampel 80 siswa. Penelitian ini merupakan suatu studi eksperimen semu dengan *pretest-posttest control group design*. Populasi dalam penelitian ini adalah seluruh siswa kelas VII Aekkanopan yang mengambil dua sekolah yang terdiri dari kelas eksperimen dan kelas kontrol melalui teknik random sampling. Instrumen yang digunakan terdiri dari tes kemampuan pemecahan masalah dan kuisioner motivasi belajar matematika siswa yang berbentuk uraian. Instrumen tersebut dinyatakan telah memenuhi syarat validitas isi dan koefisien reliabilitas. Data dianalisis dengan uji ANAVA dua jalur. Sebelum digunakan uji ANAVA dua jalur terlebih dahulu dilakukan uji normalitas dan uji homogenitas dengan taraf signifikan 5%. Berdasarkan hasil analisis tersebut diperoleh hasil penelitian yaitu : (1) peningkatan kemampuan pemecahan masalah dan motivasi belajar matematika siswa yang memperoleh model pembelajaran *problem based learning* berbantuan *software geogebra* lebih tinggi daripada kemampuan pemecahan masalah dan motivasi belajar matematika siswa yang memperoleh pembelajaran biasa, (2) tidak terdapat interaksi antara model pembelajaran dengan sikap matematika siswa terhadap peningkatan kemampuan pemecahan masalah matematika siswa, (3) terdapat interaksi antara model pembelajaran dengan sikap matematika siswa terhadap peningkatan motivasi belajar matematika siswa, (4) proses penyelesaian jawaban yang dibuat siswa pada model pembelajaran *problem based learning* berbantuan *software geogebra* lebih baik daripada pembelajaran biasa. Berdasarkan hasil penelitian ini, peneliti menyarankan agar model pembelajaran *problem based learning* berbantuan *software geogebra* dapat dijadikan alternatif bagi guru untuk meningkatkan kemampuan pemecahan masalah dan motivasi belajar matematika siswa.

Kata Kunci: Pembelajaran Problem Based Learning, Kemampuan Pemecahan Masalah, Motivasi Belajar Matematika.

ABSTRACT

Nur Adha, (2015). The Improvement of Problem Solving and Mathematical Motivation Abilities Through Problem Based Learning a Assisted Software Geogebra at SMP Aekkanopan. Thesis. Mathematical Education Study Program Postgraduate State University of Medan, 2015.

The objectives of this study are to observe whether : (1) the improvements of student ability of problem solving mathematic thought problem based learning model assisted software geogebra is higher than those taught by regular learning model, (2) the improvement of students mathematical motivation taught by problem based learning model assisted software geogebra is higher than those taught by regular learning model, (3) there is interaction between the learning model with students attitude mathematical ability and the improvement of student problem based learning ability, (4) there is interaction between the learning model with students attitude mathematical ability and students mathematical motivation ability, (5) the process of problem solving made by students in solving question in each learning. This reseached held at SMP Negeri 3 Kualuh Selatan by having 80 students and SMP Swasta Sultan Hasanuddin Aek kanopan by having 80 student as sample. This reseached used quasi-experimental method with pretest-postest control group design. The population of this reseached all students of grade VII Aekkanopan taking two classes (experimental class and control class) through random sampling technique. The instrument used consisted of the essay of problem solving ability test and mathematical motivation ability test. The instrument had required content validity and coefficient reliability. Data were analyzed by two ways ANOVA test. Before it was used two-ways ANOVA test the normality and homogeneity tests with significant level 5% had been done. The findings of this reseach were : (1) the improvement of students' problem solving ability and mathematical motivation ability taught by problem based learning assisted software geogebra model is higher than students' and mathematical motivation ability taught by regular learning, (2) there is no interaction between the learning model with attitude mathematical ability and the improvement of students' problem solving and mathematical motivation abilities, (3) there is interaction between learning model with attitude mathematical student towards improvement mathematical motivation learning, (4) the process of problem solving made by students in solving questions learning model problem based learning assisted software geogebra better than those tough by regular learning. Based on the findings of this study, the researcher suggests problem based learning assisted software geogebra can be used as an alternative for teachers to improve student problem solving and mathematical motivation abilities.

Keywords : Problem Based Learning, Problem Solving Ability, Mathematical motivation Ability