

ABSTRAK

MEYTRI LAURENCE SIHOTANG. Perbedaan Kemampuan Pemecahan Masalah Matematis dan Kemandirian Belajar Siswa SMP Santo Yoseph Medan Melalui Model Pembelajaran kontekstual dan Model Pembelajaran Kooperatif Berbantuan *Geogebra*. Tesis. Medan. 2019. Program Studi Pendidikan Matematika Program Pascasarjana Universitas Negeri Medan (UNIMED).

Penelitian ini dilakukan berdasarkan rendahnya kemampuan pemecahan masalah matematis dan kemandirian belajar siswa. Penelitian ini bertujuan untuk menganalisis (1) Apakah terdapat perbedaan kemampuan pemecahan masalah matematis siswa yang diajar melalui model pembelajaran kontekstual dengan siswa yang diajar melalui model pembelajaran kooperatif berbantuan *geogebra*; (2) Apakah terdapat perbedaan kemandirian belajar siswa yang diajar melalui model pembelajaran kontekstual dengan siswa yang diajar melalui model pembelajaran kooperatif berbantuan *geogebra*; (3) Apakah terdapat interaksi antara model pembelajaran dengan kemampuan awal matematika terhadap kemampuan pemecahan masalah matematis siswa; (4) Apakah terdapat interaksi antara model pembelajaran dengan kemampuan awal matematika terhadap kemandirian belajar siswa.

Penelitian ini merupakan penelitian eksperimen semu. Populasi pada penelitian ini adalah seluruh siswa kelas VIII SMP Swasta Santo Yoseph Medan. Kelas Eksperimen I diberi perlakuan model pembelajaran kontekstual berbantuan *geogebra* dan kelas eksperimen II diberi perlakuan model pembelajaran kooperatif berbantuan *geogebra*. Instrumen yang digunakan dalam penelitian ini yaitu: (1) tes kemampuan pemecahan masalah; (2) Angket kemandirian belajar siswa. Tes yang digunakan berbentuk uraian. Angket yang digunakan telah dinyatakan valid dan reliabel.

Data dianalisis dengan uji ANAVA dua jalur. Sebelum digunakan uji ANAVA dua jalur terlebih dahulu dilakukan uji homogenitas dan normalitas dalam penelitian ini dengan taraf signifikansi 5%. Berdasarkan hasil analisis tersebut diperoleh hasil penelitian yaitu: (1) terdapat perbedaan kemampuan pemecahan masalah matematis siswa yang diajar melalui model pembelajaran kontekstual berbantuan *geogebra* dengan siswa yang diajar melalui model pembelajaran kooperatif berbantuan *geogebra*; (2) terdapat perbedaan kemandirian belajar siswa yang diajar melalui model pembelajaran kontekstual berbantuan *geogebra* dengan siswa yang diajar melalui model pembelajaran kooperatif berbantuan *geogebra*; (3) terdapat interaksi antara pembelajaran dengan kemampuan awal matematika siswa terhadap kemampuan pemecahan masalah matematis siswa, dan (4) terdapat interaksi antara pembelajaran dengan kemampuan awal matematika siswa terhadap kemandirian belajar siswa.

Temuan penelitian merekomendasikan model pembelajaran kontekstual berbantuan *geogebra* dijadikan salah satu model pembelajaran yang digunakan di sekolah terutama untuk mencapai kompetensi kreatif, variatif dan inovatif. Saran kepada guru sebaiknya penerapan model pembelajaran kontekstual berbantuan *geogebra* pada pembelajaran matematika yang menekankan kemampuan pemecahan masalah matematis dan kemandirian belajar siswa khususnya dalam mengajarkan materi sistem persamaan linear dua variabel.

Kata Kunci: Pembelajaran Kontekstual Berbantuan *Geogebra*, Pembelajaran Kooperatif Berbantuan *Geogebra*, kemampuan pemecahan masalah matematis, kemandirian belajar siswa

ABSTRACT

MEYTRI LAURENCE SIHOTANG. The Differences of Problem Solving Ability and Self-Regulated Learning Students at SMP Santo Yoseph Medan Through Contextual Learning Model and Cooperative Learning Model. Thesis. Medan. 2019. Mathematics Education Graduate Program, State University of Medan (UNIMED).

This research was conducted based on the low mathematical problem solving abilities and Self-Regulated Learning. This study aims to analyze (1) Is there a difference in students' mathematical problem solving abilities taught through contextual learning models with students taught through cooperative learning models geogebra-assisted; (2) Are there differences in Self-Regulated Learning taught through contextual learning models with students taught through cooperative learning models geogebra-assisted; (3) Is there an interaction between learning models with early mathematical abilities of students' mathematical problem solving abilities; (4) Is there an interaction between the learning model and the initial ability of mathematics towards Self-Regulated Learning.

This research is a quasi-experimental study. The population in this study were all eighth grade students of SMP Santo Yoseph Medan. Experimental Class I was treated with a geogebra-assisted contextual learning model and experimental class II was treated with geogebra-assisted cooperative learning models. The instruments used in this study are: (1) test problem solving abilities; (2) Questionnaire for Self-Regulated Learning. The test used is in the form of a description. The questionnaire used has been declared valid and reliable.

Data were analyzed by two-way ANOVA test. Before using the two-way ANOVA test, a homogeneity and normality test was carried out first in this study with a significance level of 5%. Based on the results of the analysis, the results of the study are: (1) there are differences in students' mathematical problem solving abilities taught through geogebra-assisted contextual learning models with students taught through geogebra-assisted cooperative learning models; (2) there are differences in Self-Regulated Learning taught through geogebra-assisted contextual learning models with students taught through geogebra-assisted cooperative learning models; (3) there is an interaction between learning and students' initial mathematical abilities towards students' mathematical problem solving abilities, and (4) there is an interaction between learning and students' initial mathematical abilities towards Self-Regulated Learning

The research findings recommend that geogebra-assisted contextual learning models be used as one of the learning models used in schools especially to achieve creative, varied and innovative competencies. Suggestions to teachers should be the application of geogebra-assisted contextual learning models in mathematics learning that emphasize mathematical problem solving skills and Self-Regulated Learning, especially in teaching material systems of two-variable linear equations.

Keywords: Contextual Learning, Cooperative Learning, Problem Solving, Self-Regulated Learning