ABSTRAK

Lely Farawita, (2013). Pengaruh Pembelajaran Berbasis Masalah Terhadap Kemampuan Pemecahan Masalah Matematis dan Penalaran Logis Siswa SMP. Tesis Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan, 2013.

Kata Kunci: Pembelajaran berbasis masalah, Kemampuan pemecahan masalah matematis, Kemampuan penalaran logis.

Tujuan penelitian ini untuk menelaah: (1) peningkatan kemampuan pemecahan masalah matematis antara siswa yang diberi model PBM dengan siswa yang diberi model pembelajaran langsung; (2) peningkatan kemampuan penalaran logis antara siswa yang diberi model PBM dengan siswa yang diberi model pembelajaran langsung; (3) interaksi antara model pembelajaran dengan kemampuan awal terhadap peningkatan kemampuan pemecahan masalah matematis; (4) interaksi antara model pembelajaran dengan kemampuan awal terhadap peningkatan kemampuan penalaran logis; (5) proses penyelesaian masalah yang dibuat siswa dalam menyelesaikan masalah mengenai kemampuan pemecahan masalah matematis dan penalaran logis siswa pada model PBM dan model pembelajaran langsung. Penelitian ini dilaksanakan di MTs Swasta Al-Ikhlas Pangkalan Susu dengan sampel 62 siswa. Penelitian ini merupakan suatu studi eksperimen semu dengan *pre-test-post-test control group design*. Populasi dalam penelitian ini adalah seluruh siswa kelas VIII (delapan) dengan mengambil sampel dua kelas (kelas eksperimen dan kelas kontrol) melalui teknik random sampling. Instrumen yang digunakan terdiri dari tes kemampuan pemecahan masalah matematis dan tes kemampuan penalaran logis. 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 homogenitas dalam penelitian dan normalitas dalam penelitian ini dengan taraf signifikan 5%. Berdasarkan hasil analisis tersebut diperoleh hasil penelitian yaitu: (1) peningkatan kemampuan pemecahan masalah matematis siswa yang memperoleh model PBM lebih tinggi daripada siswa yang memperoleh model pembelajaran langsung; (2) peningkatan kemampuan penalaran logis siswa yang memperoleh model PBM lebih tinggi daripada siswa yang memperoleh model pembelajaran langsung; (3) tidak terdapat interaksi antara model pembelajaran dengan kemampuan awal siswa terhadap peningkatan kemampuan pemecahan masalah matematis; (4) tidak terdapat interaksi antara model pembelajaran dengan kemampuan awal siswa terhadap peningkatan penalaran logis; (5) Proses penyelasaian masalah yang dibuat oleh siswa dalam menyelesaikan masalah pada model PBM lebih baik daripada model pembelajaran langsung. Berdasarkan hasil penelitian ini, peneliti menyarankan agar model pembelajaran berbasis masalah dapat dijadikan alternatif bagi guru untuk meningkatkan kemampuan pemecahan masalah matematis dan penalaran logis siswa.

ABSTRACT

Lely Farawita, (2013). The Influence of the Problem-Based Learning toward Students' Ability Mathematical Problem Solving and Logical Reasoning in Junior High School. Thesis. Medan: Posgraduate of Study Mathematics Education University of Negeri Medan, 2013.

Keywords: Problem-Based Learning, Mathematical Problem Solving, Logical Reasoning

The purpose of this research was to analyze: (1) The improvement in mathematical problem solving ability of students that given through problem-based learning model with students that given through direct learning model, (2) The improvement in mathematical logical reasoning ability of students that given through problem-based learning model with students that given through direct learning model, (3) The interaction between the learning models with students' mathematical previous knowledge toward the improvement in mathematical problem solving ability, (4) The interaction between the learning models with students' mathematical previous knowledge toward the improvement in logical reasoning, (5) The problem solving process that made by students in problem solving about mathematical problem solving ability and students' logical reasoning ability in problem based learning model and direct learning model. This research has done at MTs Swasta Al-Ikhlas Pangkalan Susu with sample 62 students. This research is a semi-experimental by *pre-test-post-test control group design*. The population of this research is grade eight with taken sample two classes (experiment class and control class) through random sampling technic. The instrument of this research were: test of mathematical problem solving and test of logical reasoning. These instruments had been estabilisihed in fulfill requisite content validity and reability coefficient. The analysis data was done by using two-way ANAVA test. Before using two-way ANAVA test, early had been done homogeneity and normality in this research by level 5% significant. Based of the results analysis, it showed that: (1) Improvement of the students' ability in mathematical problem solving in PBL classroom is higher than the students' ability in direct learning classroom, (2) Improvment the students' ability in mathematical logical reasoning in PBL classroom is higher than the students' ability in direct learning classroom, (3) There did not encist between learning model and students' mathematical previous knowledge toward the improvement ability mathematical problem solving, (4) There did not encist between learning model and students' mathematical previous knowledge toward the improvement ability logical reasoning, (5) The problem solving process made by students in PBL classroom was better than direct learning classroom. Based on the result of this research, the researcher suggested that problem based learning model can be used as an alternative for mathematic teacher to improved students' ability in mathematical problem solving and logical reasoning.