ABSTRAK

RAUDAH UMMU FAHDA DAMANIK. **Perbedaan Kemampuan Pemecahan Masalah Dan Penalaran Matematis Siswa Yang Diajar Menggunakan Model Pembelajaran *Problem Based Learning* (PBL) Dan *Discovery Learning*.** Tesis. Medan: Program Pascasarjana Universitas Negeri Medan, Juli 2023.

Penelitian ini bertujuan untuk mengetahui: (1) Apakah terdapat perbedaan kemampuan pemecahan masalah matematis antara siswa yang diberi model pembelajaran PBL dan *Discovery*; (2) Apakah terdapat perbedaan kemampuan penalaran matematis antara siswa yang diberi model pembelajaran PBL dan *Discovery*; (3) Interaksi model pembelajaran dengan kemampuan awal terhadap kemampuan pemecahan masalah siswa; (4) Interaksi model pembelajaran dengan kemampuan awal terhadap kemampuan penalaran siswa. Jenis penelitian ini adalah eksperimen semu. Penelitian ini dilaksanakan di SMK Negeri 9 Medan pada Tahun Ajaran 2022/2023. Berdasarkan hasil perhitungan ANAVA dua arah untuk data kemampuan pemecahan masalah siswa diperoleh nilai Sig. (p-value) = 0,041. Karena nilai Sig. (p-value) $< 0{,}05$ maka tolak H_0 dan terima H_a. Dapat disimpulkan bahwa terdapat perbedaan kemampuan pemecahan masalah antara siswa yang diajar dengan model PBL dan model *Discovery*. Untuk interaksi antara faktor model pembelajaran dengan KAM, diperoleh nilai Sig. (p-value) = 0,000. Karena nilai Sig. (p-value) $< 0{,}05$ maka tolak H_0 dan terima H_a. Dapat disimpulkan bahwa terdapat interaksi antara model pembelajaran dan kemampuan awal matematika terhadap kemampuan pemecahan masalah siswa. Sedangkan untuk data kemampuan penalaran siswa diperoleh nilai Sig. (p-value) = 0,026. Karena nilai Sig. (p-value) $< 0{,}05$ maka tolak H_0 dan terima H_a. Dapat disimpulkan bahwa terdapat perbedaan kemampuan penalaran antara siswa yang diajar dengan model PBL dan model *Discovery*. Adapun interaksi antara faktor model pembelajaran dengan KAM, diperoleh nilai Sig. (p-value) = 0,003. Karena nilai Sig. (p-value) $< 0{,}05$ maka tolak H_0 dan terima H_a. Dapat disimpulkan bahwa terdapat interaksi antara model pembelajaran dan kemampuan awal matematika terhadap kemampuan penalaran siswa.

Kata Kunci: *Interaksi, Masalah, Model, Penalaran, Perbedaan*

ABSTRACT

RAUDAH UMMU FAHDA DAMANIK. **Differences in Problem Solving Ability and Mathematical Reasoning of Students Who Are Taught Using Problem Based Learning (PBL) and Discovery Learning Models**. Thesis. Medan: Postgraduate Program, State University of Medan, July 2023.

This study aims to find out: (1) whether there are differences in mathematical problem solving ability between students who are given PBL and Discovery learning models; (2) whether there are differences in mathematical reasoning ability between students who are given PBL and Discovery learning models; (3) the interaction of learning models with initial abilities on students' problem solving ability; (4) the interaction of learning models with initial abilities on students' reasoning ability. This type of research is a quasi-experiment. This research was conducted at SMK Negeri 9 Medan in the 2022/2023 academic year. Based on the results of two-way ANOVA calculation for the data of students' problem solving ability, the Sig. (p-value) = 0.041. Because the value of Sig. (p-value) < 0.05 then reject H_0 and accept H_a. It can be concluded that there is a difference in problem solving ability between students taught with PBL and Discovery. For the interaction between the learning model factor and KAM, the Sig. (p-value) = 0.000. Because the Sig. (p-value) < 0.05 then reject H_0 and accept H_a. It can be concluded that there is an interaction between the learning model and initial math ability on students' problem solving ability. As for the data on students' reasoning ability, the Sig. (p-value) = 0.026. Because the value of Sig. (p-value) < 0.05 then reject H_0 and accept H_a. It can be concluded that there is a difference in reasoning ability between students taught with PBL and Discovery. As for the interaction between the learning model factor and KAM, the Sig. (p-value) = 0.003. Because the value of Sig. (p-value) < 0.05 reject H_0 and accept H_a. It can be concluded that there is an interaction between the learning model and initial math ability on students' reasoning ability.

Keywords: *Interaction, Problem, Model, Reasoning, Difference*