ABSTRAK

MASITOH HASIBUAN. Pengaruh Kemampuan Awal Matematis dan Model Pembelajaran (*Project Based Learning* dan *Problem Based Learning*) Terhadap Kemampuan Penalaran Matematis dan Disposisi Matematis Siswa Di MTs Swasta PAB 1 Helvetia. Tesis. Medan; Program Studi Pendidikan Matematika Pascasarjana Universitas Negeri Medan. 2022.

Penelitian ini bertujuan untuk mengetahui (1) pengaruh kemampuan awal matematis (Tinggi, Sedang, Rendah) terhadap kemampuan penalaran matematis siswa, (2) pengaruh kemampuan awal matematis (Tinggi, Sedang, Rendah) terhadap disposisi matematis siswa, (3) pengaruh model pembelajaran *Project Based Learning* (PjBL) dan *Problem Based Learning* (PBL) terhadap kemampuan penalaran matematis siswa, (4) pengaruh model pembelajaran *Project Based Learning* (PjBL) dan *Problem Based Learning* (PBL) terhadap disposisi matematis siswa, (5) apakah terdapat interaksi antara model pembelajaran (PjBL dan PBL) dan kemampuan awal matematis (Tinggi, Sedang, Rendah) terhadap kemampuan penalaran matematis siswa, (6) apakah terdapat interaksi antara model pembelajaran (PjBL dan PBL) dan kemampuan awal matematis (Tinggi, Sedang, Rendah) terhadap kemampuan penalaran matematis siswa. Jenis penelinan ini adalah *quasi eksperiment*. Populasi penelitian ini adalah seluruh siswa kelas VIII SMP Swasta PAB 1 Helvetia Tahun Ajaran 2021/2022. Sampel penelitian imi adalah siswa kelas VIII-C yang diajarkan denyan model pembelajaran PjBL dan VIII-D yang diajarkan dengan model pembelajaran PBL yang masing-masing berjumlah 32 siswa. Instrumen yang digunakan adalah tes kemampuan penalaran dan angket disposisi matematis siswa. Analisis yang digunakan adalah ANAVA Dua Jalur. Dari hasil uji coba lapangan diperoleh (1) terdapat pengaruh kemampuan awal matematis (Tinggi, Sedang, Rendah) terhadap kemampuan penalaran matematis siswa, (2) terdapat pengaruh kemampuan awal matematis (Tinggi, Sedang, Rendah) terhadap disposisi matematis siswa, (3) terdapat pengaruh model pembelajaran (*Project Based Learning* dan *Problem Based Learning*) terhadap kemampuan penalaran matematis, (4) terdapat pengaruh model pembelajaran (*Project Based Learning* dan *Problem Based Learning*) terhadap disposisi matematis siswa, (5) tidak terdapat interaksi antara kemampuan awal matematis (Tinggi, Sedang, Rendah) dan model pembelajaran (PjBL dan PBL) terhadap kemampuan penalaran matematis siswa, (6) tidak terdapat interaksi antara kemampuan awal matematis (Tinggi, Sedang, Rendah) dan model pembelajaran (PjBL dan PBL) terhadap disposisi matematis siswa.

Kata Kunci: Kemampuan Awal Matematis, *Project Based Leraning*, *Problem Based Learning*, Kemampuan Penalaran Matematis, Disposisi Matematis.

ABSTRACT

MASITOH HASIBUAN. The Effect of Early Mathematical Ability and Learning Model (Project Based Learning and Problem Based Learning) on Mathematical Reasoning Ability and Mathematical Disposition of MTs Swasta PAB 1 Helvetia. Thesis. Field; Postgraduate Mathematics Education Study Program. Medan State University. 2022.

This study aims to determine (1) the effect of early mathematical abilities (High, Medium, Low) on students' mathematical reasoning abilities, (2) the effect of early mathematical abilities (High, Medium, Low) on students' mathematical dispositions, (3) the effect of learning models Project Based Learning (PjBL) and Problem Based Learning (PBL) on students' mathematical reasoning abilities, (4) the effect of Project Based Learning (PjBL) and Problem Based Learning (PBL) learning models on students' mathematical dispositions, (5) whether there is an interaction between learning models (PjBL and PBL) and early mathematical abilities (High, Medium, Low) on students' mathematical reasoning abilities, (6) whether there is an interaction between learning models (PjBL and PBL) and early mathematical abilities (High, Medium, Low) on students' mathematical reasoning abilities. This type of research is quasi-experimental. The population of this study were all students of class VIII MTs Swasta PAB 1 Helvetia for the Academic Year 2021/2022. The samples of this research were students of class VIII-C who were taught the PjBL learning model and VIII-D taught with the PBL learning model, each of which consisted of 32 students. The instruments used were a test of students' reasoning ability and a questionnaire of students' mathematical disposition. The analysis used is Two-way ANOVA. From the results of field trials, it was found that (1) there was an effect of early mathematical abilities (High, Medium, Low) on students' mathematical reasoning abilities, (2) there was an influence of early mathematical abilities (High, Medium, Low) on students' mathematical dispositions, (3) there is an effect of learning models (Project Based Learning and Problem Based Learning) on mathematical reasoning abilities, (4) there is an influence of learning models (Project Based Learning and Problem Based Learning) on students' mathematical dispositions, (5) there is no interaction between early mathematical abilities (High, Medium, Low) and learning models (PjBL and PBL) on students' mathematical reasoning abilities, (6) there is no interaction between initial mathematical abilities (High, Medium, Low) and learning models (PjBL and PBL) on students' mathematical dispositions.

Keywords: *Early Mathematical Ability, Project Based Learning, Problem Based Learning, Mathematical Reasoning Ability, Mathematical Disposition.*