ABSTRAK

Nur Icha Putri (NIM. 4193111031). Penerapan Model Pembelajaran *Problem Based Learning* (PBL) Berbantuan *Software* Geogebra Untuk Meningkatkan Kemampuan Pemahaman Konsep Matematis Siswa Sekolah Menengah Pertama.

Penelitian ini menerapkan model pembelajaran *Problem Based Learning* dengan berbantuan *software* Geogebra untuk menguji peningkatan kemampuan pemahaman konsep matematis siswa SMP yang terkait dengan materi himpunan. Penelitian ini bertujuan untuk mengetahui apakah penerapan model pembelajaran *Problem Based Learning* (PBL) berbantuan *software* Geogebra pada materi himpunan dapat meningkatkan kemampuan pemahaman konsep matematis siswa kelas VII SMP Negeri Medan. Adapun metode penelitian yang digunakan adalah Penelitian Tindakan Kelas (PTK). Subjek penelitian ini adalah siswa kelas VII-6 SMP Negeri 17 Medan yang berjumlah 29 orang. Objek penelitian ini adalah peningkatan pemahaman konsep matematis siswa pada materi himpunan dengan model *Problem Based Learning* (PBL) berbantuan *software* Geogebra pada kelas VII-6 SMP Negeri 17 Medan tahun ajaran 2023/2024. Penelitian ini terdiri dari 2 siklus, dimana pada setiap akhir siklus siswa diberikan tes untuk mengetahui kemampuan pemahaman konsep matematis siswa. Berdasarkan hasil penelitian diperoleh, pada siklus I jumlah siswa yang memenuhi ketuntasan belajar klasikal terdapat 8 siswa (27,59%), dan 21 siswa (72,41%) belum tuntas, dengan nilai rata – rata kelas 54,87. Pada siklus II terjadi peningkatan kemampuan pemahaman konsep matematis siswa, terdapat 21 siswa (72,41%) yang mencapai ketuntasan dan 8 siswa (27,59%) belum tuntas, dengan nilai rata – rata kelas 72,24. Tingkat persentase target keberhasilan siswa berdasarkan pada tes siklus II pemahaman konsep matematis telah mencapai ketuntasan yang telah ditentukan yaitu 70% dengan KKM 70. Berdasarkan hasil penelitian, dapat disimpulkan bahwa penerapan model *Problem Based Learning* (PBL) berbantuan *software* geogebra dapat meningkatkan kemampuan pemahaman konsep matematis siswa kelas VII-6 SMP Negeri 17 Medan pada materi himpunan.

Kata kunci: Penelitian tindakan kelas, model *Problem Based Learning* (PBL), *software* geogebra, kemampuan pemahaman konsep matematis.

ABSTRACT

Nur Icha Putri (NIM. 4193111031). The Implementation of Problem Based Learning (PBL) Learning Model Assisted by Geogebra Software to Improve the Mathematical Concept Understanding Abilities of Junior High School Students.

This research applies the Problem Based Learning (PBL) learning model assisted by Geogebra software to assess the improvement of mathematical concept understanding abilities of junior high school students related to set theory. The objective of this research is to determine whether the implementation of the Problem Based Learning (PBL) learning model with Geogebra software on set theory can enhance the mathematical concept understanding abilities of seventh-grade students at Medan Public Junior High School. The research method used in this study is Classroom Action Research (CAR). The research subjects are 29 students from class VII-6 at Medan Public Junior High School 17. The research object is the improvement in students' mathematical concept understanding on set theory using the Problem Based Learning (PBL) model assisted by Geogebra in class VII-6 at Medan Public Junior High School 17 during the academic year 2023/2024. The research consists of 2 cycles, and at the end of each cycle, students are given tests to assess their mathematical concept understanding abilities. Based on the research results, in the first cycle, 8 students (27.59%) met the classical learning completeness criteria, and 21 students (72.41%) did not, with an average class score of 54.87. In the second cycle, there was an improvement in students' mathematical concept understanding abilities, with 21 students (72.41%) achieving completeness and 8 students (27.59%) not, with an average class score of 72.24. The percentage of student success in achieving mathematical concept understanding based on the second-cycle test reached the predetermined completeness criteria of 70% with a minimum passing grade of 70. Based on the research results, it can be concluded that the application of the Problem Based Learning (PBL) model assisted by Geogebra software can improve the mathematical concept understanding abilities of seventh-grade students at Medan Public Junior High School 17 on set theory.

Keywords: Classroom Action Research, *Problem Based Learning* (PBL) model, Geogebra *software*, mathematical concept understanding abilities