ABSTRAK

Wardatul Mawaddah Tanjung, NIM 4183111057 (2022). Penerapan Model Pembelajaran *Problem Based Learning* untuk Meningkatkan Kemampuan Penalaran Matematika Siswa Kelas VII di SMPN 3 Tebing Tinggi T.A 2021/2022.

Penelitian ini bertujuan untuk mengetahui bagaimana peningkatan kemampuan penalaran matematika siswa kelas VII-6 di SMP Negeri 3 Tebing Tinggi dengan menggunakan model pembelajaran *Problem Based Learning* pada materi Segiempat dan Segitiga. Penelitian ini merupakan penelitian tindakan kelas yang dilaksanakan dalam dua siklus. Subjek penelitian ini adalah 31 orang siswa kelas VII-6 SMP Negeri 3 Tebing Tinggi. Instrumen pada penelitian ini terdiri dari tes dan lembar observasi. Tes digunakan untuk mengukur tingkat kemampuan penalaran matematika siswa dan lembar observasi digunakan untuk mengamati hal-hal yang terjadi selama kegiatan pembelajaran. Hasil tes kemampuan awal menunjukkan bahwa rata-rata kemampuan penalaran matematika siswa ialah 40,73 termasuk kategori kemampuan cukup. Persentase ketuntasan klasikal yang diperoleh ialah 9,68%. Pada siklus I, hasil tes kemampuan penalaran matematika I menunjukkan bahwa rata-rata kemampuan penalaran matematika siswa ialah 61,69 termasuk kategori kemampuan baik. Persentase ketuntasan klasikal yang diperoleh ialah 61,29%. Pada siklus II, hasil tes kemampuan penalaran matematika II menunjukkan bahwa rata-rata kemampuan penalaran matematika siswa ialah 75,2 termasuk kategori kemampuan baik. Persentase ketuntasan klasikal yang diperoleh ialah 87,10%. Selain itu, proses pembelajaran dengan menggunakan model *problem based learning* juga mengalami peningkatan dari siklus I ke siklus II. Dari hasil observasi, diperoleh bahwa nilai rata-rata siklus I ialah 65,63 termasuk kategori tinggi, dan nilai rata-rata siklus II ialah 82,29 termasuk kategori sangat tinggi. Dengan adanya peningkatan tersebut, disimpulkan bahwa dengan diterapkannya model *problem based learning*, maka terjadi peningkatan terhadap kemampuan penalaran matematika siswa kelas VII di SMPN 3 Tebing Tinggi.

Kata Kunci: Kemampuan penalaran matematika, Model pembelajaran *Problem Based Learning*, Penelitian tindakan kelas.

ABSTRACT

Wardatul Mawaddah Tanjung, NIM 4183111057 (2022). The Application of *Problem-Based Learning* Model to Improve the Mathematical Reasoning Ability of Students Grade VII at SMPN 3 Tebing Tinggi, Academic Year 2021/2022.

This study aims to analyze the improvement of the mathematical reasoning ability of Grade VII-6 students at SMP Negeri 3 Tebing Tinggi by using the Problem Based Learning model on the Quadrilateral and Triangle materials. This research used a classroom action research conducted in two cycles. The subjects of this study were 31 students of class VII-6 SMP Negeri 3 Tebing Tinggi. The instruments in this study consisted of tests and observation sheets. Tests were used to measure the level of students' reasoning abilities. While observation sheets were used to observe things that happened during learning activities. The results of the initial test showed that the average mathematical reasoning ability of students was 40.73, and included in the category of sufficient ability. In addition, the percentage of classical completeness obtained was found to be 9.68%. In the first cycle, the results of the math ability test showed that the students' average mathematical reasoning was 61.00, and included in the good ability category. Meanwhile, the percentage of classical completeness obtained was 61.29%. In cycle II, the results of the second reasoning ability test showed that the average student's mathematical reasoning was 75.20, and included in the good ability category. Furthermore, the percentage of classical completeness obtained was found to be 87.10%. In addition, the learning process using the Problem Based Learning model also increased from cycle I to cycle II. From the observations, it was found that the average value of the first cycle was 65.63, and included in the high category. While the second cycle average value was 82.29, and included in the very high category. With this improvement, it can be concluded that with the implementation of the Problem Based Learning model, there is an improvement of the reasoning ability of class VII students at SMPN 3 Tebing Tinggi.

Keywords: Mathematical reasoning ability, *Problem Based Learning* Model, Classroom action research.