ABSTRAK

Botrina Adisti Simangunsong, NIM 4193111059 (2024), Penerapan Model Pembelajaran *Student Team Achievement Division* Berbantuan GeoGebra untuk Meningkatkan Kemampuan Penalaran Matematis Siswa Sekolah Menengah Pertama.

Penelitian ini dilakukan bertujuan untuk: (1) mengetahui bagaimana peningkatan kemampuan penalaran matematis siswa setelah diterapkannya model pembelajaran *Student Team Achievement Division* (STAD) berbantuan aplikasi *GeoGebra* (2) mendeskripsikan apakah kemampuan penalaran matematis siswa dapat meningkat setelah diterapkannya model pembelajaran *Student Team Achievement Division* berbantuan aplikasi *GeoGebra*, (3) mendeskripsikan bagaimana proses jawaban siswa ketika menyelesaikan suatu masalah matematika berkaitan dengan kemampuan penalaran matematis menggunakan model pembelajaran *Student Team Achievement Division* berbantuan aplikasi *GeoGebra.* Adapun jenis penelitian ini adalah penelitian tindakan kelas yang dilaksanakan sebanyak dua siklus. Subjek pada penelitian ini adalah siswa kelas VIII SMP Swasta Gajah Mada Medan yang berjumlah 20 siswa. Metode pengumpulan data yang digunakan yakni melalui tes kemampuan penalaran matematis, observasi kemampuan guru, dan observasi aktivitas siswa. Hasil penelitian menujukkan bahwa: (1) Kemampuan penalaran matematis siswa mengalami peningkatan setelah diterapakan model pembelajaran *Student Team Achievement Division* berbantuan aplikasi *GeogGebra* dimana rata rata nilai siswa pada tes kemampuan penalaran matematis siklus I sebesar 58,44 dan pada siklus II meningkat menjadi 80,25. Ketuntasan klasikal pada tes kemampuan penalaran matematis siswa siklus I sebanyak 7 siswa (35%) meningkat menjadi 17 siswa (85%) pada siklus II; (2) Penerapan model pembelajaran *Student Team Achievement Division* dengan berbantuan aplikasi *GeoGebra* dapat meningkatkan kemampuan penalaran matematis siswa kelas VIII SMP Swasta Gajah Mada Medan. (3) Proses jawaban siswa dalam menyelesaikan tes kemampuan penalaran matematis berkategori baik, hal ini dapat dilihat dari jawaban siswa yang sudah dapat memenuhi indikator kemampuan penalaran matematis. Sehingga dapat disimpulkan bahwa penerapan model pembelajaran *Student Team Achievement Division* berbantuan aplikasi Geogebra dapat meningkatkan kemampuan penalaran matematis siswa di kelas VIII SMP Swasta Gajah Mada Medan.

Kata Kunci: Model Pembelajaran *Student Team Achievement Division*, Kemampuan Penalaran Matematis, Aplikasi GeoGebra

ABSTRACT

Botrina Adisti Simangunsong, NIM 4193111059 (2024), Application of *Student Team Achievement Division* Model Learning With the help of GeoGebra to Improve the Mathematical Reasoning Abilities of Junior High School Students.

This research was conducted with the aim of: (1) finding out how students' mathematical reasoning abilities improve after implementing the learning model Student Team Achievement Division (STAD) assisted by application GeoGebra (2) describe whether students' mathematical reasoning abilities can improve after implementing the learning model Student Team Achievement Division application assisted GeoGebra, (3) describe how the student's answer process when solving a mathematical problem is related to mathematical reasoning abilities using a learning model Student Team Achievement Division application assisted GeoGebra. This type of research is classroom action research which is carried out in two cycles. The subjects in this research were 20 students in class VIII of Gajah Mada Private Middle School, Medan. The data collection methods used were through tests of mathematical reasoning abilities, observation of teacher abilities, and observation of student activities. The research results show that: (1) Students' mathematical reasoning abilities have increased after applying the learning model Student Team Achievement Division application assisted GeogGebra where the average student score in the first cycle mathematical reasoning ability test was 58.44 and in the second cycle it increased to 80.25. Classical completion in the test of students' mathematical reasoning abilities in cycle I was 7 students (35%) increasing to 17 students (85%) in cycle II; (2) Application of learning models Student Team Achievement Division with the help of the application GeoGebra can improve the mathematical reasoning abilities of class VIII students at Gajah Mada Private Middle School, Medan. (3) The process of students' answers in completing the mathematical reasoning ability test is in the good category, this can be seen from the students' answers which have fulfilled the indicators of mathematical reasoning ability. So it can be concluded that the application of the learning model Student Team Achievement Division with the help of the Geogebra application, it can improve the mathematical reasoning abilities of students in class VIII of Gajah Mada Private Middle School, Medan.

Keywords: Learning model Student Team Achievement Division, Mathematical Reasoning Ability, GeoGebra Application