ABSTRAK

Irna Dwi Rizki Ronahaya Pohan, NIM 4181111044 (2018). Upaya Meningkatkan Kemampuan Penalaran Matematis Siswa Kelas VIII A MTsN 4 Padang Lawas Menggunakan Model Pembelajaran Kooperatif Tipe *Numbered Head Together* **(NHT) berbantuan Geogebra.**

Penelitian ini bertujuan untuk mengetahui bagaimana model pembelajaran kooperatif tipe *Numbered Head Together* (NHT) berbantuan Geogebra dapat meningkatkan kemampuan penalaran matematis siswa kelas VIII A MTsN 4 Padang Lawas serta untuk mengetahui bagaimana peningkatan kemampuan penalaran matematis siswa setelah diterapkannya model pembelajaran kooperatif tipe *Numbered Head Together* berbantuan Geogebra. Penelitian ini merupakan penelitian tindakan kelas yang dilaksanakan dalam dua siklus. Pada akhir setiap siklus, guru memberikan tes untuk mengukur peningkatan kemampuan penalaran matematis siswa. Pada penelitian ini, subjek yang diteliti adalah siswa kelas VIII A MTsN 4 Padang Lawas tahun ajaran 2022/2023 berjumlah 36 siswa. Instrumen pada penelitian ini terdiri dari tes dan lembar observasi kegiatan guru. Tes digunakan untuk mengukur tingkat kemampuan penalaran matematis siswa dan lembar observasi kegiatan guru digunakan untuk mengamati hal-hal yang terjadi selama kegiatan pembelajaran. Analisis data hasil penelitian menunjukkan bahwa proses pembelajaran dengan menggunakan model kooperatif tipe *Numbered Head Together* berbantuan Geogebra mengalami peningkatan dari siklus I ke siklus II dengan nilai rata-rata siklus I adalah 72,91 (cukup), dan siklus II adalah 91,66 (sangat baik). Rata-rata kemampuan penalaran matematis awal siswa, siklus I, dan siklus II masing-masing adalah 51,16 (cukup) dengan persentase ketuntasan klasikal 25%; 65,97 (baik) dengan persentase ketuntasan klasikal 47,22%; serta 82,18 (sangat baik) dengan persentase ketuntasan klasikal 86,11%. Berdasarkan uraian tersebut, dapat disimpulkan bahwa kemampuan penalaran matematis siswa kelas VIII A MTsN 4 Padang Lawas meningkat setelah diterapkannya model pembelajaran kooperatif tipe *Numbered Head Together* berbantuan Geogebra.

Kata Kunci: *Kemampuan Penalaran Matematis, Model Pembelajaran Kooperatif Tipe Numbered Head Together (NHT), Geogebra, Penelitian Tindakan Kelas (PTK).*

ABSTRACT

Irna Dwi Rizki Ronahaya Pohan, NIM 4181111044 (2018). Efforts to Inprove Mathematical Reasoning Ability of Class VIII A MTsN 4 Padang Lawas Students Using Cooperative Learning Model Type Numbered Head Together (NHT) Assisted by Geogebra.

The purpose of this study is to determine how the *Numbered Head Together* (NHT) cooperative learning model assisted by Geogebra can enhance the mathematical reasoning ability of class VIII A MTsN 4 Padang Lawas students, as well as how to those skills after its implementation *Numbered Head Together* cooperative learning model assisted by Geogebra. This research is a classroom action research conducted in two cycles. At the conclusion of each cycle, the teacher gave a test to gauge improvement in mathematical reasoning students'. In this research, the subjects studied were students of class VIII A MTsN 4 Padang Lawas for the academic year 2022/2023, totaling 36 students. The instrument in this study consisted of tests and teacher activity observation sheets. The test is used to gauge the level students can reason mathematically, and the teacher's activity observation sheet is used to aserve things that happen during learning activities. Analysis of the research data revealed an increase in the learning process from cycle I to cycle II utilizing the *Numbered Head Together* cooperative model and Geogebra, with cycle I's average value being 72,91 (enaugh) and cycle II's average value being 91,66 (excellent). The average of students' initial mathematical reasoning abilities, cycle I, and cycle II were 51,16 (enaugh) with classical completeness percentage 25%; 65,97 (good) with classical completeness percentage 47,22%; and 82,18 (excellent) with classical completeness percentage 86,11%. Based on this description, it can be concluded that the mathematical reasoning ability of class VIII A MTsN 4 Padang Lawas students increased after the implementation of the *Numbered Head Together* type of cooperative learning model assisted by Geogebra.

Keywords: *Mathematical Reasoning Ability, Cooperative Learning Model Numbered Head Together (NHT), Geogebra, Classroom Action Research (CAR).*