

ABSTRAK

ANTONIUS SARUMAHA, NIM 8136171011. Peningkatan Kemampuan Penalaran Dan Koneksi Matematis Siswa Dalam Pembelajaran Matematik Melalui Pendekatan CTL Di SMP Swasta Parulian 1 Medan.

Penelitian ini bertujuan untuk: (1) mengetahui peningkatan kemampuan penalaran dan koneksi matematis siswa yang pembelajarannya dengan pendekatan CTL dengan pembelajaran biasa, (2) melihat adakah interaksi antara pendekatan pembelajaran yang digunakan dengan kemampuan awal matematika siswa terhadap peningkatan kemampuan penalaran dan koneksi matematis siswa. Penelitian ini merupakan penelitian kuasi eksperimen. Populasi penelitian ini adalah seluruh siswa SMP Swasta Parulian 1 Medan. Sampel penelitian diambil dari seluruh siswa kelas IX SMPS Swasta Parulian 1 Medan sebanyak 88 orang, kelas IX-1 sebanyak 44 orang (kelas eksperimen) dan kelas IX-2 sebanyak 44 orang (kelas kontrol). Instrumen yang digunakan adalah (1) tes kemampuan penalaran matematis, (2) tes kemampuan koneksi matematis. Instrumen penelitian tersebut dinyatakan telah memenuhi validitas isi serta koefisien reliabilitas tes kemampuan penalaran matematis siswa sebesar 0,904 dan koefisien reliabilitas tes kemampuan koneksi matematis siswa sebesar 0,799. Sedangkan perangkat pembelajaran yang digunakan adalah (1) Rencana Pelaksanaan Pembelajaran, (2) Lembar Kerja Siswa. Analisis data dilakukan dengan menggunakan analisis inferensial uji Anava Dua Jalur. Hasil penelitian menunjukkan bahwa: (1) rata-rata N-Gain kemampuan penalaran matematis antara siswa yang pembelajarannya dengan pendekatan CTL (0,603) lebih tinggi dari rata-rata N-Gain pembelajaran biasa (0,55), (2) semakin tinggi level kemampuan awal matematika siswa maka semakin baik pula N-Gain kemampuan penalaran matematis siswa yaitu level tinggi (0,772), level sedang (0,597) dan level rendah (0,483), (3) tidak terdapat interaksi antara pembelajaran dengan kemampuan awal matematika siswa dalam meningkatkan kemampuan penalaran matematis siswa, (4) rata-rata N-Gain kemampuan koneksi matematis antara siswa yang pembelajarannya pendekatan CTL (0,62) lebih tinggi dari rata-rata N-Gain pembelajaran biasa (0,51), (5) semakin tinggi level kemampuan awal matematika maka semakin baik pula N-Gain kemampuan koneksi matematis siswa yaitu level tinggi (0,845), level sedang (0,609) dan level rendah (0,454), (6) tidak terdapat interaksi antara pembelajaran dengan kemampuan awal matematika siswa dalam meningkatkan kemampuan koneksi matematis siswa. Berdasarkan hasil penelitian ini, disarankan agar pendekatan CTL dapat dijadikan alternatif bagi guru matematika untuk meningkatkan kemampuan penalaran dan koneksi matematis siswa.

Kata kunci : Kemampuan Penalaran Matematis Siswa, Kemampuan Koneksi Matematis siswa, Pendekatan CTL, Pembelajaran Biasa, dan Kemampuan Awal Matematika Siswa.

ABSTRACT

ANTONIUS SARUMAHA, NIM 8136171011. Upgrades Mathematical Reasoning and Connections Students in Learning Mathematics Through CTL approach First Private Secondary Schools Parulian 1 Medan.

This research aims to: (1) determine the increase in reasoning skills and connections mathematical students learning with CTL approach to learning regular, (2) look at is there any interaction between the teaching approaches used with prior knowledge of mathematics students to increase the ability of reasoning and connections mathematical students. This study is a quasi-experimental research. The study population was all students of First Private Secondary Schools Parulian 1 Medan. Samples were taken from all students of class IX First Private Secondary Schools Parulian 1 Medan. Terrain as many as 88 people, class IX-1 as many as 44 people (experimental class) and class IX-2 as many as 44 people (control group). The instruments used were (1) tests of mathematical reasoning abilities, (2) test the ability of mathematical connections. The research instruments found to comply with the content validity and reliability coefficient test students 'mathematical reasoning abilities of 0.904 and the coefficient of reliability test students' mathematical connection ability of 0.799. While learning tools were used: (1) Learning Implementation Plan, (2) Student Worksheet . Data analysis was performed using Anova test inferential analysis Two Line. The results showed that: (1) the average N-Gain mathematical reasoning skills among students learning with CTL approach (0.603) is higher than the average N-ordinary learning Gain (0.55), (2) the higher level initial ability math students the better the N-Gain the ability of mathematical reasoning students is high level (0.772), the level was (0.597) and low level (0.483), (3) there is no interaction between learning with prior knowledge of mathematics students in enhancing the ability mathematical reasoning students, (4) the average N-Gain ability mathematical connection between student learning CTL approach (0.62) is higher than the average N-ordinary learning Gain (0.51), (5) the higher level the ability of early math the better the N-Gain the ability to connect mathematical student is high level (0.845), the level was (0.609) and low level (0.454), (6) there is no interaction between learning with prior knowledge of mathematics students in enhancing the ability of connection mathematical students. Based on these results, it is suggested that CTL approach can be an alternative for math teachers to improve students' mathematical reasoning and connections.

Keywords: Student Mathematical Reasoning Ability, Mathematical Ability Connections students, CTL approach, Learning Regular and Early Mathematics Ability Students.

