

ABSTRAK

Tujuan utama dari penelitian ini adalah untuk mengetahui perbedaan dan pencapaian kemampuan penalaran dan *Self-Regulated Learning* (SRL) siswa, mengetahui efektivitas penerapan pendekatan *Contextual Teaching and Learning* (CTL), dan kendala yang dihadapi selama proses pembelajaran. Penelitian ini didasarkan pada pentingnya kemampuan penalaran matematis dan *Self-Regulated Learning* (SRL), nyatanya masih banyak penelitian yang menemukan bahwa kemampuan penalaran dan *Self-Regulated Learning* (SRL) siswa masih rendah. Metode penelitian yang digunakan adalah *Mixed Method* dengan model *Sequensial Explanatory Design*. Dengan tahap penelitian pertama metode kuantitatif yaitu masalah/potensi, rumusan masalah, landasan teori dan hipotesis, pengumpulan dan analisis data, hasil pengujian hipotesis. Selanjutnya metode kualitatif yaitu penentuan sumber data penelitian, pengumpulan dan analisis data kualitatif, analisis data kuantitatif dan kualitatif, kesimpulan dan saran. Subjek penelitian ini adalah siswa kelas X Farmasi Klinis dan Komunitas (FKK) 1 sebagai kelas eksperimen dan Farmasi Klinis dan Komunitas (FKK) 2 sebagai kelas kontrol di SMK PGRI 2 Cimahi, dengan masing-masing kelas berjumlah 20 siswa. Teknik pengumpulan data yang digunakan adalah wawancara, observasi, studi dokumentasi, soal tes kemampuan penalaran matematis, dan angket *Self-Regulated Learning* (SRL). Hasil penelitian menunjukkan kemampuan penalaran matematis siswa dan *Self-Regulated Learning* (SRL) pada kelas eksperimen yang mendapat pendekatan *Contextual Teaching and Learning* (CTL) lebih baik dari pada kelas kontrol yang mendapat pendekatan biasa. Selain itu, bahan ajar yang digunakan pada kelas eksperimen terbukti efektif dilihat dari hasil tes akhir yang diberikan. Sedangkan kendala yang terjadi selama proses pembelajaran yaitu siswa perlu adaptasi saat dilakukan pembelajaran berkelompok, banyak siswa yang kesulitan mengisi soal non rutin sehingga perlu bimbingan untuk menemukan dan mengkonstruksi konsep kedalam model matematika.

Kata Kunci: Kemampuan penalaran matematis, *Self-Regulated Learning* (SRL), *Contextual Teaching and Learning* (CTL), *Liveworksheets*.

ABSTRACT

The main objective of this research is to determine the differences and achievements of students' reasoning and Self-Regulated Learning (SRL) abilities, determine the effectiveness of implementing the Contextual Teaching and Learning (CTL) approach, and the obstacles faced during the learning process. This research is based on the importance of mathematical reasoning abilities and Self-Regulated Learning (SRL) there are still many studies that find that students' reasoning abilities and Self-Regulated Learning (SRL) are still low. The research method used is a Mixed Method with a Sequential Explanatory Design model. In the first research stage, the quantitative method is the problem/potential, problem formulation, theoretical basis and hypothesis, data collection and analysis, and hypothesis testing results. Next, the qualitative method is determining the source of research data, collecting and analyzing qualitative data, and analyzing quantitative and qualitative data, conclusions, and suggestions. The subjects of this research were students of class The data collection techniques used were interviews, observation, documentation studies, mathematical reasoning ability test questions, and Self-Regulated Learning (SRL) questionnaires. The research results showed that students' mathematical reasoning abilities and Self-Regulated Learning (SRL) in the experimental class which received the Contextual Teaching and Learning (CTL) approach were better than those in the control class which received the usual approach. Apart from that, the teaching materials used in the experimental class were proven to be effective as seen from the results of the final test given. Meanwhile, the obstacles during the learning process are that students need to adapt when learning in groups, and many students have difficulty filling in non-routine questions. Hence, they need guidance to find and construct concepts into mathematical models.

Keywords: Mathematical reasoning abilities, Self-Regulated Learning (SRL), Contextual Teaching and Learning (CTL), Liveworksheets.