

ABSTRAK

Zahra Aisyah Rahayu, 1212050190, 2025, “Peningkatan Pemahaman Konsep dan Sikap Resiliensi Siswa melalui Pendekatan STEAM (*Science, Technology, Engineering, Art, and Mathematics*) Berbasis Proyek”.

Penelitian ini dilatarbelakangi oleh kemampuan pemahaman konsep matematis dan resiliensi matematis siswa yang masih perlu ditingkatkan. Pembelajaran menggunakan pendekatan STEAM berbasis proyek menjadi alternatif untuk meningkatkan kemampuan pemahaman konsep matematis dan resiliensi matematis siswa. Tujuan penelitian ini adalah mengetahui gambaran keterlaksanaan pembelajaran menggunakan pendekatan STEAM berbasis proyek, perbedaan peningkatan kemampuan pemahaman konsep matematis siswa kelas STEAM berbasis proyek dengan siswa kelas konvensional, dan resiliensi matematis siswa yang mengikuti pembelajaran STEAM berbasis proyek. Metode penelitian yang digunakan adalah kuasi eksperimen yang menerapkan desain *non-equivalent control group design*. Populasi penelitian yaitu seluruh siswa kelas IX salah satu SMPN di Bandung 2025/2026 terdiri dari delapan kelas dengan sampel sebanyak dua kelas yang dipilih menggunakan teknik *purposive sampling*. Instrumen penelitian berupa tes kemampuan pemahaman konsep matematis dengan validitas soal baik dan reliabilitas tinggi, lembar observasi keterlaksanaan, dan angket resiliensi matematis. Hasil penelitian menunjukkan bahwa: keterlaksanaan proses pembelajaran dikategorikan sangat baik, terdapat perbedaan peningkatan kemampuan pemahaman konsep matematis siswa yang memperoleh pembelajaran pendekatan STEAM berbasis proyek dengan siswa yang memperoleh pembelajaran konvensional, serta resiliensi matematis siswa yang mengikuti pembelajaran STEAM berbasis proyek menunjukkan kecenderungan yang positif pada setiap indikator.

Kata Kunci: Kemampuan Pemahaman Konsep Matematis, Resiliensi Matematis, STEAM

ABSTRACT

Zahra Aisyah Rahayu, 1212050190, 2025, “Improving Students' Conceptual Understanding and Resilience Attitudes through a Project-Based STEAM (Science, Technology, Engineering, Art, and Mathematics) Approach”.

This research is motivated by the need to improve students' understanding of mathematical concepts and their mathematical resilience. Learning through a project-based STEAM approach is an alternative to enhance students' understanding of mathematical concepts and resilience. The purpose of this study is to analyze the implementation of learning using a project-based STEAM approach, the differences in the improvement of students' mathematical concept understanding abilities in project-based STEAM classes compared to students in conventional classes, and the mathematical resilience of students who participate in project-based STEAM learning. The research method employed a quasi-experimental design with a non-equivalent control group design. The research population consists of all ninth-grade students of one of the junior high schools in Bandung in 2025/2026, which comprises eight classes, with a sample of two classes selected using a purposive sampling technique. The research instruments are a mathematical concept understanding ability test with good question validity and high reliability, an implementation observation sheet, and a mathematical resilience questionnaire. The results of the study showed that: the implementation of the learning process was categorized as very good, there was a difference in the increase in the ability to understand mathematical concepts of students who received project-based STEAM learning approaches with students who received conventional learning, and the mathematical resilience of students who participated in project-based STEAM learning showed a positive tendency in each indicator.

Keywords: *Mathematical Concept Understanding Ability, Mathematical Resilience, STEAM*