

**PENGARUH MODEL PEMBELAJARAN *PROJECT-BASED LEARNING*
BERBANTUAN SCRATCH TERHADAP KEMAMPUAN BERPIKIR
KOMPUTASIONAL SISWA**

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ABSTRAK

Penelitian ini diawali dari rendahnya kemampuan berpikir komputasional siswa di era serba digital dan teknologi ini. Penelitian ini bertujuan untuk mengetahui pengaruh model pembelajaran *Project-Based Learning* berbantuan Scratch terhadap kemampuan berpikir komputasional siswa. Penelitian ini adalah penelitian eksperimen semu dengan *post-test only control group design*. Populasi penelitian ini adalah siswa kelas VII SMPN 1 Singaraja tahun ajaran 2024/2025. Sampel penelitian yaitu kelas VIIA 7 sebagai kelas eksperimen dan kelas VIIA 8 sebagai kelas kontrol yang dipilih menggunakan teknik *cluster random sampling* dari 11 kelas. Pengumpulan data dalam penelitian ini menggunakan instrumen tes kemampuan berpikir komputasional. Sebelum tes diberikan kepada sampel, instrumen terlebih dahulu diuji melalui validitas isi, validitas butir, dan reliabilitas. Hasil tes menunjukkan bahwa rata-rata kemampuan berpikir komputasional siswa yang dibelajarkan dengan model *Project-Based Learning* berbantuan Scratch adalah 70,82, sedangkan pada pembelajaran konvensional sebesar 49,18. Analisis data menggunakan uji-t independen pada taraf signifikansi 5%, dengan hasil $t_{hitung} = 6,510 > t_{tabel} = 1,666$. Dengan demikian, dapat disimpulkan bahwa siswa yang belajar dengan model *Project-Based Learning* berbantuan Scratch memiliki kemampuan berpikir komputasional yang lebih tinggi dibandingkan siswa yang mengikuti pembelajaran konvensional.

Kata Kunci: *Berpikir Komputasional; Matematika; Project-Based Learning; Scratch*

THE EFFECT OF SCRATCH-ASSISTED PROJECT-BASED LEARNING MODEL ON STUDENTS' COMPUTATIONAL THINKING SKILLS

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ABSTRACT

This study was initiated due to the low computational thinking skills of students in this digital and technological era. The purpose of this study is to determine the effect of the Project-Based Learning model assisted by Scratch on students' computational thinking skills. This study is a quasi-experimental study with a post-test only control group design. The population of this study is seventh-grade students at SMPN 1 Singaraja in the 2024/2025 academic year. The research sample consists of class VIIA 7 as the experimental class and class VIIA 8 as the control class, selected using cluster random sampling from 11 classes. Data collection was conducted using a computational thinking ability test instrument. Prior to administration to the sample, the test instrument underwent validity testing, including content validity, item validity, and reliability testing. The results of the test showed that the average computational thinking skill score of students taught using the Scratch-assisted project-based learning model was 70.82, while the average computational thinking skill score of students taught using conventional learning was 49.18. Data analysis was conducted using an independent t-test at a significance level of 5%. The results showed that $t_{calculated} = 6,510 > t_{table} = 1,666$. It can be concluded that the computational thinking skill of students taught using the Scratch-assisted project-based learning model is higher than that of students taught using the conventional learning model.

Keywords: *Computational Thinking; Mathematics; Project-Based Learning; Scratch*