ABSTRACT

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EFFECTIVENESS OF CODING LEARNING ON THE COMPUTATIONAL THINKING, PROBLEM-SOLVING, AND MATHEMATICS SKILLS OF KINDERGARTEN B STUDENTS AT XYZ KINDERGARTEN, NORTH JAKARTA

(xvi + 105 pages: 2 diagrams, 24 tables, 4 appendices)

This study aims to determine the effectiveness of teaching coding activities in enhancing computational thinking, problem-solving, and mathematics skills in kindergarten students at TK XYZ, North Jakarta. The research sample consisted of 60 students, with 30 students in the control group and 30 students in the experimental group, selected using quota sampling. Both the placing test and post-test instruments were normally distributed. Based on validity and reliability tests, the instruments were deemed valid and reliable for use as measurement tools. The analysis was conducted using a mean difference test between the control and experimental groups. The results showed that the experimental group scored higher in computational thinking, problem-solving, and mathematics skills after receiving the treatment, which in this study was the coding learning activities. The pedagogical implications of this study highlight the importance of integrating technology into learning, enhancing teacher competency in teaching coding, and the necessity of ongoing evaluation of instructional effectiveness.

Keywords: coding, computational thinking, problem solving, mathematic, early childhood
References: 47 (2006-2023)

ABSTRAK

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EFEKTIVITAS PEMBELAJARAN *CODING* TERHADAP KEMAMPUAN *COMPUTATIONAL THINKING*, *PROBLEM SOLVING* DAN MATEMATIKA SISWA TK B TK XYZ JAKARTA UTARA
(xvi + 105 halaman: 2 diagram, 24 tabel, 4 lampiran)

Penelitian ini bertujuan untuk mengetahui efektivitas pengajaran aktivitas coding dalam meningkatkan kemampuan computational thinking, problem solving dan matematika pada siswa TK B di TK XYZ Jakarta Utara. Sampel penelitian terdiri dari 60 siswa, dengan 30 siswa dalam kelompok kontrol dan 30 siswa dalam kelompok eksperimen, yang dipilih menggunakan metode quota sampling. Instrumen placing test dan *post-test* berdistribusi normal. Berdasarkan uji validitas dan reliabilitas, instrumen dinyatakan valid dan reliabel untuk digunakan sebagai alat ukur. Analisis dilakukan menggunakan uji selisih *mean* antara kelompok kontrol dan kelompok eksperimen. Hasil penelitian menunjukkan bahwa terdapat perbedaan poin yang lebih tinggi pada kelompok eksperimen, terkait dengan kemampuan *computational thinking*, *problem solving* dan matematika setelah menerima perlakuan, dalam penelitian ini, perlakuan yang dimaksud adalah kegiatan pembelajaran coding. Implikasi pedagogis dari penelitian ini menyoroti pentingnya integrasi teknologi dalam pembelajaran, peningkatan kompetensi guru dalam mengajar coding, dan perlunya evaluasi berkelanjutan terhadap efektivitas pembelajaran.

Keywords: *coding*, *computational thinking*, *problem solving*, kemampuan matematika, anak usia dini
Referensi: 47 (2006 – 2023)