

IMPACT OF DECAMATH PUZZLE ON ADDITION OF 1-DIGIT BY 1-DIGIT NUMBERS OF GRADE 1 LEARNERS

ABSTRACT

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This study explored the use of the Decamath Puzzle as an instructional strategy for teaching one-digit addition to Grade 1 learners at GSIS Village Elementary School. It assessed students' performance before and after the intervention, examined its lasting impact on learning, and identified challenges in its classroom implementation. Guided by Saul M., Ph.D.'s (2024) Constructivist Learning Theory, the research highlighted the puzzle's effectiveness in promoting active engagement and improving mathematical skills. The study also presented practical recommendations for integrating the Decamath Puzzle into early-grade math instruction to foster deeper understanding and sustained interest among young learners. This study explored the effectiveness of the Decamath Puzzle as a teaching aid for one-digit addition among 35 Grade 1 learners at GSIS Village Elementary School. A quantitative research design was employed, using pre-tests and post-tests to assess student learning outcomes. The results, analyzed through statistical tools such as frequency, percentage, ranking, weighted mean, composite weighted mean, and Z-test, demonstrated a significant improvement in students' mathematical performance after the implementation of the puzzle-based intervention. This study evaluated the effectiveness of the Decamath Puzzle in enhancing students' performance in one-digit addition. The pre-test results showed a composite mean of 5.71 with a standard deviation of 1.16, indicating a generally low level of proficiency and limited variation in scores. Post-test results demonstrated a marked improvement, with a composite mean of 8.86 and a standard deviation of 1.26, reflecting higher proficiency and greater score variability. The computed Z-value of -10.9227 and a p-value of less than 0.00001 confirmed a statistically significant difference between the pre- and post-test scores. Although challenges were noted, particularly in presenting the material in a way that was easily understandable for all learners, the findings clearly indicate that the Decamath Puzzle was effective in improving students' addition skills. The study found that the Decamath Puzzle effectively supported the teaching of addition by promoting interactive learning and improving students' conceptual understanding. The increase in proficiency levels demonstrated the method's impact, though further development is needed to achieve mastery across all learners. Post-test results confirmed significant improvement, with particularly notable progress observed in individual cases such as Isaiah. Hypothesis testing validated a meaningful difference between pre-test and post-test scores. However, challenges such as the puzzle's size and weight limited its independent use, indicating the need for design modifications to enhance classroom application. Despite these limitations, the puzzle encouraged active engagement and fostered deeper mathematical understanding among students.

RECOMMENDED CITATION

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