

ABSTRAK

PENGEMBANGAN ALAT PERAGA MONTESSORI *ROLLING BALL* PADA MATERI PENJUMLAHAN KELAS I SD NEGERI 1 KEPURUN

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Penelitian ini bertujuan untuk mengembangkan alat peraga pembelajaran matematika berbasis Montessori "*Rolling Ball*" pada materi penjumlahan untuk siswa kelas I SD Negeri 1 Kepurun. Penelitian ini menggunakan pendekatan *Research and Development* (R&D) dengan model pengembangan ADDIE yang terdiri dari lima tahap: analisis, desain, pengembangan, implementasi, dan evaluasi. Subjek uji coba terbatas adalah siswa kelas I SD Negeri 1 Kepurun tahun ajaran 2023/2024. Hasil penelitian menunjukkan bahwa media alat peraga yang dikembangkan memenuhi kriteria sebagai media pembelajaran yang menarik, kontekstual, dan dapat digunakan secara mandiri oleh siswa. Validasi yang dilakukan oleh dua ahli menunjukkan bahwa alat peraga tersebut sangat layak digunakan. Respon siswa terhadap penggunaan media ini juga menunjukkan peningkatan minat dan pemahaman terhadap konsep penjumlahan. Berdasarkan hasil *pre-test* dan *post-test*, ditemukan peningkatan hasil belajar siswa setelah menggunakan alat peraga. Oleh karena itu, media alat peraga berbasis Montessori *Rolling Ball* dinilai efektif dalam membantu proses pembelajaran matematika pada materi penjumlahan.

Kata kunci: Pengembangan alat peraga, Montessori, penjumlahan, kelas I SD

ABSTRACT

**DEVELOPMENT OF A MONTESSORI-BASED ROLLING BALL
TEACHING AID ON ADDITION MATERIAL FOR FIRST GRADE AT SD
NEGERI 1 KEPURUN**

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This study aims to develop a Montessori-based mathematics instructional called Rolling Ball for the topic of numbers and addition in first-grade elementary school. The research used a Research and Development (R&D) approach with the ADDIE development model, which consists of five stages: analysis, design, development, implementation, and evaluation. The research subjects were first-grade students of SD Negeri 1 Kepurun in the 2023/2024 academic year. In the analysis stage, observations and interviews were conducted to determine classroom needs and learning conditions. The results showed that the use of concrete teaching aids was still limited. Based on the findings, the researcher designed a Rolling Ball media that integrates visual elements, movement, and error control based on Montessori principles. The developed media was validated by two experts, namely a material expert and a media expert. The validation results indicated that the media is "highly feasible" for classroom use. The implementation phase involved a limited trial, and the results showed an improvement in student learning outcomes, as evidenced by the comparison of pre-test and post-test scores. Additionally, students showed high learning motivation and active participation during the learning process. Based on these findings, it can be concluded that the Rolling Ball media is effective and relevant to be applied in mathematics learning for first-grade elementary students, particularly in the topic of numbers and addition.

Keywords: Development of prop, Montessori, addition, elementary students