

ABSTRAK

PENGEMBANGAN MEDIA PEMBELAJARAN BERBANTU *AUGMENTED REALITY* PADA MATERI GEOMETRI DALAM MENINGKATKAN KEMAMPUAN PEMECAHAN MASALAH MATEMATIK SISWA SMP N 45 BANDAR LAMPUNG

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Penelitian ini bertujuan untuk mengembangkan media pembelajaran berbasis *Augmented Reality* (AR) pada materi geometri serta mengetahui kelayakan dan efektivitas dalam meningkatkan kemampuan pemecahan masalah matematik siswa SMP. Penelitian ini menggunakan metode *Research and Development* (R&D) dengan model ADDIE yang meliputi tahap analisis, desain, pengembangan, implementasi, dan evaluasi. Subjek penelitian adalah siswa kelas VIIA SMP Negeri 45 Bandar Lampung tahun pelajaran 2025/2026 sebanyak 33 siswa. Instrumen penelitian meliputi lembar validasi ahli media dan ahli materi, angket respon siswa, serta tes *pretest* dan *posttest* kemampuan pemecahan masalah matematik. Hasil penelitian menunjukkan bahwa media pembelajaran berbasis *Augmented Reality* yang dikembangkan berada pada kategori sangat layak, dengan persentase validasi ahli media sebesar 90,24% dan ahli materi sebesar 91,00%. Media pembelajaran berbasis *Augmented Reality* terbukti lebih efektif dalam meningkatkan kemampuan pemecahan masalah matematik siswa dibandingkan pembelajaran konvensional. Hasil uji N-Gain menunjukkan bahwa kelas eksperimen memperoleh nilai N-Gain sebesar 70% dengan kategori cukup efektif, sedangkan kelas kontrol sebesar 48% dengan kategori kurang efektif. Selain itu, hasil observasi menunjukkan bahwa penggunaan media *Augmented Reality* (AR) mampu meningkatkan keterlibatan, motivasi, dan keaktifan siswa dalam pembelajaran geometri. Berdasarkan hasil tersebut, dapat disimpulkan bahwa media pembelajaran berbasis *Augmented Reality* layak dan cukup efektif digunakan sebagai media pembelajaran inovatif untuk meningkatkan kemampuan pemecahan masalah matematik siswa pada materi geometri.

Kata kunci: *Augmented Reality*, Media Pembelajaran, Geometri, Pemecahan Masalah Matematik

ABSTRACT

DEVELOPMENT OF AUGMENTED REALITY ASSISTED LEARNING MEDIA ON GEOMETRY MATERIALS TO IMPROVE THE MATHEMATICAL PROBLEM SOLVING ABILITY OF STUDENTS AT SMP N 45 BANDAR LAMPUNG

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This study aimed to develop an Augmented Reality (AR)-based learning media for geometry and to determine its feasibility and effectiveness in improving junior high school students' mathematical problem-solving skills. The research employed a Research and Development (R&D) method using the ADDIE model, which consists of analysis, design, development, implementation, and evaluation stages. The subjects of this study were 33 seventh-grade students of SMP Negeri 45 Bandar Lampung in the 2025/2026 academic year. Research instruments included media and material expert validation sheets, student response questionnaires, and pretest and posttest of mathematical problem-solving ability. The results showed that the developed Augmented Reality-based learning media was categorized as highly feasible, with validation percentages of 90.24% from media experts and 91.00% from material experts. The Augmented Reality-based learning media proved to be more effective in improving students' mathematical problem-solving skills than conventional instruction. The N-Gain analysis showed that the experimental class achieved an N-Gain score of 0.70 (70%), categorized as moderately effective, while the control class obtained an N-Gain score of 0.48 (48%), categorized as less effective. In addition, observation results revealed that the use of AR-based learning media increased students' engagement, motivation, and active participation in geometry learning. In conclusion, the Augmented Reality-based learning media is feasible and moderately effective as an innovative learning tool to enhance students' mathematical problem-solving skills in geometry.

Keywords: *Augmented Reality, Learning Media, Geometry, Mathematical Problem Solving*