

ABSTRAK

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Pengembangan Media Pembelajaran Terintegrasi Budaya Motif Batik Berbasis *Augmented Reality* (AR) pada Siswa Berkesulitan Belajar SMP Negeri 19 Purworejo

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Penelitian ini bertujuan untuk mengembangkan media pembelajaran terintegrasi budaya motif batik berbasis *Augmented Reality* (AR) pada materi bangun ruang sisi lengkung bagi siswa berkesulitan belajar di SMP Negeri 19 Purworejo. Media yang dikembangkan diharapkan memenuhi kriteria valid, praktis, dan efektif sehingga dapat digunakan sebagai alternatif media pembelajaran untuk meningkatkan hasil belajar siswa.

Penelitian ini merupakan penelitian dan pengembangan (*Research and Development*) menggunakan model 4-D yang meliputi tahap *define*, *design*, *develop*, dan *disseminate*. Penelitian dilaksanakan di SMP Negeri 19 Purworejo dengan subjek siswa berkesulitan belajar kelas IX. Data dikumpulkan melalui lembar validasi ahli materi dan ahli media, angket respons guru dan siswa, serta tes hasil belajar berupa *pretest* dan *posttest*. Instrumen penelitian telah divalidasi oleh ahli sebelum digunakan. Data dianalisis secara deskriptif kuantitatif menggunakan analisis kevalidan, kepraktisan, dan keefektifan melalui skor validasi, persentase angket, serta perhitungan N-Gain.

Hasil penelitian menunjukkan bahwa media pembelajaran berbasis *Augmented Reality* yang dikembangkan memenuhi kriteria sangat valid berdasarkan hasil validasi ahli. Tingkat kepraktisan media memperoleh persentase rata-rata 86,5% dengan kategori sangat praktis. Keefektifan media ditunjukkan oleh peningkatan rata-rata nilai *pretest* dari 46,56 menjadi 88,13 pada *posttest* dengan nilai N-Gain sebesar 0,778 yang termasuk kategori tinggi. Dengan demikian, media pembelajaran yang dikembangkan dinyatakan valid, praktis, dan efektif sehingga layak digunakan dalam pembelajaran matematika bagi siswa berkesulitan belajar pada materi bangun ruang sisi lengkung. Penelitian selanjutnya disarankan mengembangkan media pada materi matematika lainnya dengan cakupan subjek yang lebih luas.

Kata kunci: *Augmented Reality*, bangun ruang sisi lengkung, budaya motif batik, media pembelajaran, siswa berkesulitan belajar.

ABSTRACT

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**Development of Augmented Reality (AR)-Based Learning Media Integrated
with Batik Motifs Culture for Students with Learning Difficulties at SMP
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This study aimed to develop Augmented Reality (AR)-based learning media integrated with batik motifs culture on the topic of curved-surface solid geometry for students with learning difficulties at SMP Negeri 19 Purworejo. The developed learning media were expected to meet the criteria of validity, practicality, and effectiveness so that they could be used as an alternative learning medium to improve students' learning outcomes.

This study employed a Research and Development (R&D) approach using the 4-D model, consisting of the Define, Design, Develop, and Disseminate stages. The research was conducted at SMP Negeri 19 Purworejo involving ninth-grade students with learning difficulties. The data were collected through expert validation sheets, teacher and student response questionnaires, and learning achievement tests in the form of pretests and posttests. The research instruments were validated by experts before being implemented. The data were analyzed descriptively using validity scores, practicality percentages, and the N-Gain test to determine the effectiveness of the developed learning media.

The results showed that the developed learning media met the **very valid** category based on expert validation. The practicality level reached an average percentage of 86.5%, indicating that the media were very practical for classroom use. The effectiveness of the media was demonstrated by the improvement in students' average scores from 46.56 in the pretest to 88.13 in the posttest, with an N-Gain score of 0.778, which falls into the high category. Therefore, the Augmented Reality (AR)-based learning media integrated with batik motifs culture were considered valid, practical, and effective for improving the learning outcomes of students with learning difficulties on the topic of curved-surface solid geometry. Future studies are recommended to develop similar learning media for other mathematics topics involving a wider range of participants.

Keywords: Augmented Reality, batik motifs culture, curved-surface solid geometry, learning media, students with learning difficulties.