

ABSTRAK

PENGEMBANGAN MEDIA PEMBELAJARAN *AUGMENTED REALITY* BERBASIS PENDEKATAN SAINTIFIK UNTUK MENINGKATKAN KEMAMPUAN SPASIAL PADA PEMBELAJARAN MATEMATIKA

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Penelitian pengembangan ini bertujuan untuk mengembangkan media pembelajaran *augmented reality* (AR) berbasis pendekatan saintifik yang valid, praktis dan efektif dalam meningkatkan kemampuan spasial matematika siswa. Penelitian ini didasari oleh rendahnya kemampuan spasial matematika. Pengembangan dilakukan dengan menggunakan model ADDIE (*Analysis, Design, Development, Implementation, Evaluation*). Penelitian ini dilakukan di UPTD SMP Negeri 11 Pesawaran pada semester ganjil tahun pelajaran 2025/2026. Rancangan penelitian menggunakan *pretest-posttest experimental control group design*. Teknik pengumpulan data meliputi wawancara, observasi, angket, dan tes kemampuan spasial matematika. Instrumen penelitian terdiri dari instrumen tes dan non tes (angket dan observasi). Hasil penelitian menunjukkan bahwa media pembelajaran AR tergolong valid berdasarkan penilaian ahli materi sebesar 0,867 dan ahli media sebesar 0,875, praktis berdasarkan respon peserta didik sebesar 0,904 dan respon guru matematika sebesar 0,90. Selanjutnya, media pembelajaran AR efektif berdasarkan uji t pada data N-Gain. Dengan demikian, media pembelajaran AR berbasis pendekatan saintifik memenuhi kriteria valid, praktis dan efektif untuk meningkatkan kemampuan spasial matematika siswa.

Kata Kunci : Media Pembelajaran, *Augmented Reality* (AR), Pendekatan Saintifik, Kemampuan Spasial

ABSTRACT

DEVELOPMENT OF AUGMENTED REALITY LEARNING MEDIA BASED ON A SCIENTIFIC APPROACH TO IMPROVE SPATIAL ABILITY IN MATHEMATICS LEARNING

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This development research aims to develop a valid, practical, and effective augmented reality (AR) learning medium based on a scientific approach to improve students' mathematical spatial abilities. This research is based on the low level of mathematical spatial abilities. The development was carried out using the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). This research was conducted at UPTD SMP Negeri 11 Pesawaran in the odd semester of the 2025/2026 academic year. The research design used a pretest-posttest experimental control group design. Data collection techniques included interviews, observations, questionnaires, and mathematical spatial ability tests. The research instruments consisted of test and non-test instruments (questionnaires and observations). The results showed that the AR learning media was valid based on the assessment of subject matter experts (0.867) and media experts (0.875) and practical based on the responses of students (0.904) and mathematics teachers (0.90). Furthermore, AR learning media is effective based on the t-test on N-Gain data. Thus, AR learning media based on a scientific approach meets the criteria of validity, practicality, and effectiveness in improving students' mathematical spatial abilities.

Keywords: Learning Media, Augmented Reality (AR), Scientific Approach, Spatial Ability