ABSTRAK

"PENGEMBANGAN MEDIA PEMBELAJARAN MATEMATIKA BERBASIS *AUGMENTED REALITY* PADA MATERI BANGUN RUANG KUBUS DAN BALOK UNTUK SISWA SD KELAS V"

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Teknologi memiliki peran penting dalam pendidikan saat ini karena perkembangannya yang terus berlanjut mampu memperkaya pengalaman belajar siswa menjadi lebih menarik dan efektif. Namun, meskipun media pembelajaran berbasis teknologi telah diperkenalkan, penerapannya belum optimal, menyebabkan media yang digunakan terlihat monoton dan membosankan. Masalah lain adalah kurangnya antusiasme atau motivasi dalam belajar, terutama dalam memahami mata pelajaran yang dianggap sulit seperti matematika. Tujuan dari penelitian ini merupakan pengembangan media pembelajaran mata pelajaran matematika berbasis *Augmented Reality* (AR) pada materi bangun ruang kubus dan balok untuk siswa SD kelas V.

Metode yang digunakan adalah *Research and Development (R&D)* dengan menerapkan model *ASSURE*. Subjek penelitian terdiri dari guru kelas V SD Katolik Santa Maria Tulungagung, sementara objek penelitian adalah pengembangan media pembelajaran matematika berbasis *Augmented Reality* (AR) untuk kelas V SD dengan materi bangun ruang kubus dan balok. Teknik pengumpulan data melibatkan wawancara dan kuesioner kepada 5 validator (2 ahli media dan 3 ahli materi) serta sembilan siswa SD kelas V.

Hasil dari penelitian ini menunjukkan bahwa (1) Pengembangan media pembelajaran matematika berbasis *Augmented Reality* (AR) pada materi bangun ruang kubus dan balok untuk siswa SD kelas V dilakukan melalui enam langkah pengembangan *ASSURE*: *1) Analyze learners, 2) State objectives, 3) Select technology/media/material, 4) Utilize the media and material, 5) Requires learners participation, 6) Evaluate and revise*. (2) Kualitas produk media berbasis *Augmented Reality* (AR) pada materi bangun ruang kubus dan balok mendapatkan rata-rata skor persentase dari ahli media dan ahli materi $\geq$ 80%, sehingga dikategorikan sebagai "Sangat Layak". Selain itu, menurut pendapat sembilan siswa yang terlibat dalam penelitian ini, media berbasis *Augmented Reality* (AR) dianggap berkualitas dan sangat layak digunakan dalam proses pembelajaran sebagai sarana untuk meningkatkan motivasi belajar siswa.

Kata Kunci: Media Pembelajaran, *Augmented Reality*, Bangun Ruang Kubus dan Balok

ABSTRACT

"DEVELOPMENT OF MATHEMATICS LEARNING MEDIA BASED ON AUGMENTED REALITY ON CUBE AND BEAM BUILDING MATERIALS FOR CLASS V ELEMENTARY STUDENTS"

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Technology has an important role in education today as its continuous development can enrich students' learning experience to be more interesting and effective. However, although technology-based learning media has been introduced, its application has not been optimal, causing the media used to look monotonous and boring. Another problem is the lack of enthusiasm or motivation in learning, especially in understanding subjects that are considered difficult such as mathematics. The purpose of this research is the development of learning media for Augmented Reality (AR) based math subjects on the material of cube and beam spaces for grade V elementary school students.

The method used is Research and Development (R&D) by applying the ASSURE model. The research subject consists of a fifth grade teacher of Santa Maria Tulungagung Catholic Elementary School, while the object of research is the development of Augmented Reality (AR)-based mathematics learning media for fifth grade elementary school with cube and beam building materials. Data collection techniques involved interviews and questionnaires to 5 validators (2 media experts and 3 material experts) as well as nine grade V elementary school students.

The results of this study indicate that (1) The development of Augmented Reality (AR)-based math learning media on the material of cube and beam spaces for fifth grade elementary students is carried out through six ASSURE development steps: 1) Analyze learners, 2) State objectives, 3) Select technology/media/material, 4) Utilize the media and material, 5) Requires learners participation, 6) Evaluate and revise. (2) The quality of Augmented Reality (AR)-based media products on the material of building cubes and beams gets an average percentage score from media experts and material experts ≥ 80%, so it is categorized as "Very Feasible". In addition, according to the opinions of nine students involved in this study, Augmented Reality (AR)-based media is considered quality and very feasible to use in the learning process as a means to increase student learning motivation.

Keywords: Learning Media, Augmented Reality, Cube and Block Space Buildings