ABSTRAK

PENGEMBANGAN APLIKASI PEMBELAJARAN BERBANTUAN *AUGMENTED REALITY* PADA MATERI SISTEM KOORDINASI KELAS XI SMA

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Kemajuan Teknologi Informasi dan Komunikasi (TIK) membawa dampak bagi dunia pendidikan yaitu dengan terciptanya media pembelajaran, namun berdasarkan analisis kebutuhan sekolah masih ditemukan kendala penerapan media pembelajaran dalam pembelajaran daring berupa media pembelajaran yang digunakan belum dapat memenuhi kebutuhan penyampaian materi abstrak. Kendala tersebut membuat peserta didik merasa jenuh dan berdampak pada motivasi belajar siswa. Merujuk pada permasalahan tersebut, maka dikembangkan media pembelajaran berbasis TIK berupa aplikasi pembelajaran dengan teknologi *Augmented Reality* (AR) yang akan diimplementasikan pada materi sistem koordinasi kelas XI. Tujuan dari penelitian ini adalah untuk mengembangkan dan mengetahui kelayakan media pembelajaran tersebut.

Penelitian ini berbentuk penelitian pengembangan dengan model yang digunakan yaitu ADDIE (*Analysis, Design, Development, Implementation,* and *Evaluation*). Pada tahapan tersebut diawali dengan analisis data di 5 Sekolah Menengah Atas, dilanjutkan dengan desain produk dan pengembangan produk. Di akhir tahapan dilakukan uji kelayakan berupa uji validasi yang dilakukan oleh satu dosen ahli bidang materi, satu dosen ahli bidang media dan dua guru biologi.

Hasil penelitian ini menunjukkan, produk aplikasi pembelajaran berbantuan *Augmented Reality* pada android yang dikembangkan layak untuk diujicobakan kepada siswa. Berdasarkan hasil analisis validasi, dihasilkan persentase skor rata-rata validator materi yaitu 84,3% dengan kriteria “sangat layak” dan persentase skor rata-rata validator media yaitu 90,5% dengan kriteria “sangat layak” sehingga diperoleh persentase rata-rata akhir yaitu 87,4% dengan kriteria “sangat layak”. Hal tersebut menunjukkan bahwa produk aplikasi pembelajaran ini layak diujicobakan setelah melalui proses revisi.

Kata Kunci: *Research & Development,* Media Pembelajaran, aplikasi pembelajaran, *Augmented Reality,* sistem koordinasi, sistem indra.

ABSTRACT

DEVELOPMENT OF AUGMENTED REALITY ASSISTED LEARNING APPLICATIONS ON THE COORDINATION SYSTEM MATERIALS FOR ELEVENTH GRADE

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The advances of Information and Communication Technology (ICT) have an impact on the world of education, namely by creating learning media, but based on the analysis of school needs, it is still found that obstacles to the application of learning media in online learning in the form of learning media used have not been able to meet the needs of the delivering abstract material. These obstacles make students feel saturated and have an impact on student learning motivation. Referring to these problems, an ICT-based learning media was developed in the form of learning applications with Augmented Reality (AR) technology which will be implemented on the material of the coordination system for eleventh grade. The purpose of this study is to develop and find out the feasibility of these learning media.

This research is in the form of development research with the model used, namely ADDIE (Analysis, Design, Development, Implementation, and Evaluation). This stage begins with data analysis in 5 senior high schools, followed by product design and product development. At the end of the stage, a feasibility test was carried out in the form of a validation test carried out by one expert lecturer in the field of material, one expert lecturer in the field of media and two biology teachers.

The results of this study show that the Augmented Reality assisted learning application product on Android that was developed is worthy of being tested on students. Based on the results of the validation analysis, the percentage of the average score of the material validators was 84.3% with the criterion of "very feasible" and the percentage of the average score of media validators was 90.5% with the criterion of "very feasible" so that the final average percentage was obtained, which was 87.4% with the criterion of "very feasible". This shows that this learning application product is worth testing after going through a revision process.

Keywords: *Research & development, learning media, learning applications, augmented reality, coordination systems, sensory systems.*