

ABSTRAK

Ferdi Setiawadi, 5193351018 : Pengembangan Media Pembelajaran Berbasis *Augmented Reality* Pada Materi Perangkat Keras Komputer Dalam Elemen Sistem Komputer Mata Pelajaran Informatika Di SMK Swasta Jambi Medan.

Penelitian ini dilatarbelakangi oleh kurangnya ketersediaan sarana praktik fisik dan dominasi metode konvensional di sekolah yang menyebabkan peserta didik kesulitan dalam memvisualisasikan komponen perangkat keras komputer. Tujuan penelitian ini adalah mengembangkan, menguji kelayakan, serta mengukur tingkat efektivitas media pembelajaran berbasis *Augmented Reality* (AR) pada materi Perangkat Keras Komputer dalam elemen Sistem Komputer mata pelajaran Informatika. Penelitian ini merupakan jenis *Research and Development* (R&D) yang mengadopsi model pengembangan ADDIE melalui tahapan analisis, desain, pengembangan, implementasi, dan evaluasi. Penelitian dilaksanakan di SMK Swasta Jambi Medan dengan subjek uji coba sebanyak 32 peserta didik kelas X TKJ yang dibagi secara berimbang menjadi kelompok eksperimen dan kelompok kontrol. Pengumpulan data dilakukan melalui instrumen observasi, wawancara, kuesioner, dan tes hasil belajar, yang kemudian dianalisis menggunakan teknik deskriptif kuantitatif dan uji *N-Gain*. Hasil pengujian menunjukkan bahwa produk yang dikembangkan memenuhi kriteria kelayakan berdasarkan hasil validasi ahli media dengan skor rata-rata 4,05 (Layak) dan ahli materi dengan skor 4,28 (Sangat Layak). Uji akseptansi oleh peserta didik mencapai skor 4,82 dengan kategori Sangat Layak. Selanjutnya, hasil uji efektivitas membuktikan bahwa kelompok eksperimen mencatatkan persentase peningkatan hasil belajar dengan rata-rata *N-Gain* sebesar 86% (Efektif), jauh mengungguli kelompok kontrol yang hanya memperoleh capaian sebesar 51% (Kurang Efektif). Kesimpulannya, media pembelajaran berbasis *Augmented Reality* yang dirancang terbukti sangat layak, praktis, dan efektif untuk diimplementasikan guna meningkatkan pemahaman serta hasil belajar peserta didik secara signifikan.

Kata Kunci: Media Pembelajaran; *Augmented Reality*; Perangkat Keras Komputer; Informatika; Model ADDIE.

ABSTRACT

Ferdi Setiawadi, 5193351018 : Development of Augmented Reality-Based Learning Media for Computer Hardware Content in the “Elements of Computer Systems” Module of the Computer Science Curriculum at a Private Vocational High School in Jambi, Medan.

This study was motivated by the lack of physical practice facilities and the prevalence of conventional methods in schools, which make it difficult for students to visualize computer hardware components. The objectives of this study are to develop, test the feasibility of, and measure the effectiveness of Augmented Reality (AR)-based learning media for the Computer Hardware module within the Computer Systems component of the Computer Science curriculum. This study is a Research and Development (R&D) project that adopts the ADDIE development model through the stages of analysis, design, development, implementation, and evaluation. The study was conducted at SMK Swasta Jambi Medan with 32 X grade TKJ students as test subjects, who were divided equally into an experimental group and a control group. Data collection was carried out using observation instruments, interviews, questionnaires, and learning outcome tests, which were then analyzed using quantitative descriptive techniques and the N-Gain test.

The test results showed that the developed product met the feasibility criteria based on the validation results from media experts, with an average score of 4.05 (Feasible), and content experts, with a score of 4.28 (Highly Feasible). The acceptance test by students achieved a score of 4.82, falling into the “Highly Feasible” category. Furthermore, the effectiveness test results prove that the experimental group recorded a percentage increase in learning outcomes with an average N-Gain of 86% (Effective), far surpassing the control group, which only achieved 51% (Less Effective). In conclusion, the Augmented Reality-based learning medium designed in this study has been proven to be highly suitable, practical, and effective for implementation to significantly improve students’ understanding and learning outcomes.

Keywords: Learning Media; Augmented Reality; computer hardware; Informatics; Model ADDIE.