

ABSTRAK

Sity Zulayka Harahap : Pengembangan *Game* Edukasi Berbasis Android Sebagai Media Pembelajaran Interaktif Pada Mata Pelajaran Teknik Komputer dan Jaringan Di SMK Negeri 1 Aek Nabara Barumon. Fakultas Teknik Universitas Negeri Medan, 2026.

Inovasi media pembelajaran menjadi kebutuhan penting di era digital, terutama pada mata pelajaran Teknik Komputer dan Jaringan yang kerap dianggap sulit oleh siswa. Penelitian ini bertujuan mengembangkan *game* edukasi berbasis Android sebagai media pembelajaran interaktif pada materi teknologi jaringan kabel dan nirkabel serta perbaikan teknologi jaringan kabel dan nirkabel di SMK Negeri 1 Aek Nabara Barumon. Permasalahan yang melatarbelakangi penelitian adalah rendahnya hasil belajar siswa, keterbatasan variasi media pembelajaran, serta dominasi metode ceramah yang menimbulkan kejenuhan. Penelitian menggunakan model pengembangan ADDIE (Analysis, Design, Development, Implementation, Evaluation) dengan subjek siswa kelas XI-A TKJ. Instrumen penelitian berupa angket validasi ahli materi, ahli media, uji akseptabilitas, dan instrumen efektivitas siswa. Analisis data dilakukan secara deskriptif kuantitatif. Hasil validasi ahli menunjukkan bahwa produk *game* edukasi termasuk kategori sangat layak untuk digunakan. Respon siswa juga menegaskan tingkat akseptabilitas yang tinggi. Selain itu, hasil uji efektivitas memperlihatkan adanya peningkatan signifikan antara nilai *pretest* dan *posttest* setelah penerapan media. Dengan demikian, *game* edukasi berbasis Android yang dikembangkan dinilai efektif sebagai media pembelajaran interaktif. Media ini tidak hanya meningkatkan hasil belajar, tetapi juga memudahkan siswa memahami konsep teknologi jaringan kabel dan nirkabel serta perbaikan teknologi jaringan kabel dan nirkabel secara lebih menarik, kontekstual, dan menyenangkan.

Kata kunci: *Game* edukasi, Android, RPG Maker, jaringan kabel, jaringan nirkabel, hasil belajar.



ABSTRACT

Sity Zulayka Harahap: Development of Android-Based Educational Game as Interactive Learning Media for Computer Engineering and Networking Subject at SMK Negeri 1 Aek Nabara Barumon. Faculty of Engineering, State University of Medan, 2026.

Innovation in learning media has become an essential need in the digital era, particularly for the Computer Engineering and Networking subject, which is often considered difficult by students. This research aims to develop an Android-based educational game as an interactive learning medium for the topics of wired and wireless network technology, as well as the repair of wired and wireless network technology, at SMK Negeri 1 Aek Nabara Barumon. The problems underlying this research include low student learning outcomes, limited variety of learning media, and the dominance of lecture methods that cause boredom. The research employs the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation) with subjects from class XI-A TKJ students. The research instruments consist of material expert validation questionnaires, media expert validation, acceptability testing, and student effectiveness instruments. Data analysis was conducted descriptively and quantitatively. The expert validation results indicate that the educational game product falls into the highly feasible category for use. Student responses also confirm a high level of acceptability. Furthermore, the effectiveness test results show a significant improvement between pretest and posttest scores after the implementation of the media. Thus, the developed Android-based educational game is deemed effective as an interactive learning medium. This media not only enhances learning outcomes but also facilitates students in understanding concepts of wired and wireless network technology, as well as the repair of wired and wireless network technology, in a more engaging, contextual, and enjoyable manner.

Keywords: Educational game, Android, RPG Maker, wired network, wireless network, learning outcomes.