

PENGEMBANGAN *GAME* EDUKASI GERBANG LOGIKA DI SEKOLAH MENENGAH KEJURUAN

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui: unjuk kerja *game* edukasi gerbang logika di Sekolah Menengah Kejuruan (SMK), mengetahui tingkat kelayakan *game* edukasi gerbang logika di SMK, dan mengetahui efektivitas *game* edukasi gerbang logika dengan pembelajaran *active learning* di SMK.

Penelitian ini dilakukan dengan metode *Research and Development (R&D)* untuk aplikasi *game* edukasi dengan perpaduan model ADDIE dan *waterfall*. Subyek penelitian adalah siswa kelas XI Teknik Audio Video (TAV) SMK Negeri 1 Pundong dengan total 30 siswa. Data penilaian diperoleh melalui observasi, wawancara, angket, dan tes. Hasil validitas instrumen, instrumen dinilai layak dengan perbaikan, sedangkan validitas tes dari 30 soal, dinyatakan 23 soal valid. Hasil uji reliabilitas angket respons siswa ditinjau dari nilai *alpha cronbach* sebesar 0,94, sedangkan reliabilitas instrumen tes diperoleh 0,927. Data dianalisis dengan deskriptif, uji *wilcoxon*, dan uji *gain*.

Hasil penelitian diketahui bahwa: unjuk kerja produk aplikasi *game* edukasi gerbang logika dengan kategori “Sangat Baik”, tingkat kelayakan materi pada aplikasi *game* edukasi gerbang logika dikategorikan “Sangat Layak” dengan nilai indeks Aiken 0,91, kelayakan media dikategorikan “Sangat Layak” dengan rerata presentase 91,03%, dan penilaian respon siswa dikategorikan “Sangat Layak” dengan rerata presentase 83.61%, dan efektivitas aplikasi *game* edukasi gerbang logika dengan pembelajaran *active learning* dikategorikan “Sedang” dengan rerata indeks *gain* sebesar 0,65.

Kata kunci: *game* edukasi, gerbang logika, *active learning*

EDUCATION GAME DEVELOPMENT OF DIGITAL LOGIC GATE IN VOCATIONAL SECONDARY SCHOOL

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ABSTRACT

This study aimed to determine: the performance of education game of digital logic gate in Vocational Secondary Schools (VSS), find out the level of feasibility education game of digital logic gate in VSS, and find out the effectiveness of education game of digital logic gate with active learning in VSS.

This research was conducted with the Research and Development (R&D) method for the application of educational games with a combination of ADDIE and waterfall models. The research subjects were students of class XI Audio Video Engineering (TAV) SMK 1 Pundong with a total of 30 students. Assessment data obtained through observation, interviews, questionnaires, and tests. The results of the validity of the instrument, the instrument is considered feasible with improvements, while the validity of the test of 30 questions, stated 23 valid questions. The results of the student response questionnaire reliability test were viewed from the Alpha Cronbach score of 0.94, while the reliability of the test instrument was obtained 0.927. Data were analyzed with descriptive, Wilcoxon test, and gain test.

The results of this study can be known: the performance education game of digital logic gate application products with the category "Very Good", the level of material suitability in the education game of digital logic gate application is categorize as "Very Eligible" with an Aiken index value of 0.91, media eligibility is categorize as "Very Eligible" with an average percentage of 91.03%, and assessment responses are categorize as "Very Eligible" with the average percentage of 83.61%, and the effectiveness of education game of digital logic gate with active learning is categorize as "Medium" with an average gain index of 0.65.

Keywords: game education, digital logic gates, active learning