PENGEMBANGAN *GAME* EDUKASI UNTUK MELATIH KEMAMPUAN LOGIKA PEMROGRAMAN PADA ANAK SMP (STUDI KASUS SMP NEGERI 2 SINGARAJA)

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ABSTRAK

Rendahnya kemampuan bernalar siswa tingkat SMP akibat dominasi metode pembelajaran Informatika yang monoton dan keterbatasan infrastruktur komputer sekolah memicu tingginya beban kognitif dalam menguasai dasar-dasar pemrograman secara mandiri. Penelitian ini bertujuan mengembangkan *game* edukasi mobile berbasis Android bernama *Logic Adventure* sebagai jembatan kognitif luring untuk melatih kemampuan logika pemrograman siswa melalui model R&D dengan tahapan ADDIE *(Analysis, Design, Development, Implementation, Evaluation)*. Hasil uji kelayakan oleh para praktisi menunjukkan tingkat validitas isi mencapai koefisien 1,00 (Validitas Sangat Tinggi) dan validitas media memperoleh 0,75 (Validitas Tinggi) pada uji awal dan meningkat menjadi 1,00 (Validitas Sangat Tinggi) setelah revisi berdasarkan kriteria Gregory. Pengujian praktikalitas produk secara konsisten menghasilkan persentase skor respon siswa sebesar 77,33% pada uji perorangan, 75,55% pada uji kelompok kecil, dan 75,39% pada uji kelompok besar (lapangan) yang semuanya masuk kualifikasi Baik/Layak, serta diperkuat oleh nilai rata-rata aktual klasikal siswa sebesar 57,21 (Kualifikasi Baik) dan skor respon guru sebesar 73 (Kualifikasi Sangat Baik) berdasarkan Penilaian Acuan Patokan (PAP). *Game* edukasi *Logic Adventure* direkomendasikan secara luas bagi pendidik sebagai media suplemen instruksional interaktif yang terbukti layak dan berpotensi efektif untuk memicu motivasi serta melatih fondasi berpikir komputasional siswa pemula secara mandiri tanpa memicu rasa frustrasi.

Kata Kunci: *Game* Edukasi, Logika Pemrograman, Berpikir Komputasional, Model ADDIE, *Logic Adventure*

DEVELOPMENT OF AN EDUCATIONAL GAME TO DEVELOP PROGRAMMING LOGIC SKILLS IN JUNIOR HIGH SCHOOL STUDENTS (CASE STUDY OF SMP NEGERI 2 SINGARAJA)

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ABSTRACT

The low level of reasoning skills among junior high school students, resulting from the prevalence of monotonous computer science teaching methods and limited school computer infrastructure, leads to a high cognitive load when mastering the basics of programming independently. This study aims to develop an Android-based mobile educational game named *Logic Adventure* as an offline cognitive bridge to train students' programming logic skills through an R&D model using the ADDIE framework (Analysis, Design, Development, Implementation, Evaluation). The results of the feasibility test by practitioners showed that the content validity reached a coefficient of 1.00 (Very High Validity) and the media validity obtained 0.75 (High Validity) in the initial test and increased to 1.00 (Very High Validity) after revision based on Gregory's criteria. Practical testing of the product consistently yielded student response scores of 77.33% in individual testing, 75.55% in small-group testing, and 75.39% in large-group (field) testing—all falling within the Good/Feasible category—and was further supported by students' actual classical mean scores of 57.21 (Good rating) and a teacher response score of 73 (Very Good rating) based on Criterion-Referenced Evaluation (PAP). The *Logic Adventure* educational game is widely recommended for educators as an interactive instructional supplement that has proven to be feasible and potentially effective for stimulating motivation and training the computational thinking foundations of beginner students independently without causing frustration

Keywords: Educational Game, Programming Logic, Computational Thinking, ADDIE Model, *Logic Adventure*.