PENGEMBANGAN *GAME* EDUKASI MATEMATIKA UNTUK MENINGKATKAN KEMAMPUAN BERPIKIR KOMPUTASIONAL SISWA KELAS VII

Oleh

I Putu Adhitya Swarmantara, NIM 2113011097

Jurusan Matematika

ABSTRAK

Penelitian ini memiliki tujuan untuk mengembangkan *game* edukasi matematika guna meningkatkan kemampuan berpikir komputasional siswa kelas VII pada materi data dan diagram. Pengembangan *game* edukasi menggunakan model ADDIE yang dikembangkan menggunakan bantuan *software Construct* 3. Validitas materi dan media dievaluasi oleh ahli menggunakan angket LORI, kepraktisan diukur dengan angket *User Experience Questionnaire* (UEQ), dan efektivitas dievaluasi melalui perhitungan skor rata-rata *N-Gain*. Hasil uji validitas materi menunjukan persentase validitas sebesar 95% dengan kriteria layak. Penilaian ahli media memperoleh persentase validitas sebesar 96,25% dengan kriteria layak. Uji coba terbatas pada 44 siswa dan satu orang guru menunjukkan hasil angket pada aspek daya tarik, ketepatan, stimulasi, serta kebaruan termasuk dalam kategori unggul, sedangkan aspek kejelasan dan efisiensi termasuk dalam kategori baik. Hasil pengukuran efektivitas *game* edukasi ditunjukkan dengan skor rata-rata *N-Gain* mencapai 0,71 dan termasuk dalam kategori tinggi. Dengan demikian, *game* edukasi matematika yang dikembangkan dinyatakan valid, layak, praktis, dan efektif dalam meningkatkan kemampuan berpikir komputasional siswa serta membangun suasana pembelajaran yang menarik dan menyenangkan.

Kata Kunci: *game* edukasi matematika, kemampuan berpikir komputasional, ADDIE

DEVELOPMENT MATHEMATICS EDUCATIONAL GAME TO IMPROVE STUDENTS' COMPUTATIONAL THINKING SKILLS OF GRADE VII

By

I Putu Adhitya Swarmantara, NIM 2113011097

Jurusan Matematika

ABSTRACT

This research aims to develop a mathematics educational game to improve the computational thinking skills of seventh-grade students on the topic of data and diagrams. Educational game was developed using the ADDIE model with the assistance of Construct 3 software. Content and media validity were evaluated by experts using LORI, practicality was assessed using the User Experience Questionnaire (UEQ), and effectiveness was measured through the average N-Gain score. The content validity test showed a result of 95%, and the media expert evaluation reached 96.25%. The practicality test, involving 44 students and one teacher, showed that responses from both the teacher and students regarding attractiveness, dependability, stimulation, and novelty were categorized as excellent, while perspicuity and efficiency were categorized as good. The effectiveness test resulted in an average N-Gain score of 0.71, which is categorized as high. Therefore, the developed mathematics educational game is considered valid, practical, and effective in improving students' computational thinking skills and create an engaging learning environment.

Keyword: *mathematics educational game, computational thinking skills, ADDIE*