ABSTRAK

Ardina Fitria Ningtiyas. *Pengembangan Game Edukasi Sebagai Media Pembelajaran Matematika Untuk Meningkatkan Pemahaman Konsep Matematis Siswa Kelas IV.* Skripsi. Pacitan: STKIP PGRI Pacitan, 2023.

Penelitian ini bertujuan untuk mengembangkan media pembelajaran matematika berupa *game* edukasi *multiplatform* pada materi operasi bilangan pecahan untuk meningkatkan pemahaman konsep matematis siswa kelas IV serta untuk mendiskripsikan: (1) proses pengembangan *game* edukasi sebagai media pembelajaran matematika untuk meningkatkan pemahaman konsep matematis siswa kelas IV; (2) kelayakan *game* edukasi sebagai media pembelajaran matematika untuk meningkatkan pemahaman konsep matematis siswa kelas IV; (3) tingkat pemahaman siswa setelah menggunakan *game* edukasi *multiplatfrom* pembelajaran matematika kelas IV**.**

Media pembelajaran *game* edukasi *multiplatform* dikembangkan menggunakan *software construct* 3 yang mengacu pada model pengembangan atau *Research & Development* (R&D) dengan model pengembangan Borg & Gall modifikasi Sugiyono. Langkah yang telah ditempuh meliputi (1) potensi dan masalah; (2) pengumpulan data; (3) desain produk; (4) validasi desain; (5) revisi desain; (6) uji coba pemakaian; (7) revisi produk. Subjek uji coba produk yaitu pada kelas IV SD Negeri IV Losari sebanyak 10 siswa. Kelayakan produk mengacu pada hasil penilaian ahli media, ahli materi serta respon guru dan siswa. Keefektifan produk mengacu pada hasil *pre-test* dan *post-test* subjek uji coba. Teknik pengumpulan data menggunakan angket, tes tulis, dan dokumentasi. Analisis data yang digunakan yaitu Teknik tingkat kevalidan produk, analisis data angket respon, dan analisis data uji coba.

Hasil penelitian menunjukkan bahwa *game* edukasi *multiplatform* yang berjudul "*Fun Math Proficient":* (1) media pembelajaran *game* edukasi *multiplatform* untuk meningkatkan pemahaman konsep matematis siswa kelas IV telah dikembangkan dengan model pengembangan Borg & Gall modifikasi Sugiyono; (2) media *game* edukasi *multiplatform* dinyatakan "Sangat Valid" oleh ahli media dengan nilai rata-rata sebesar 4,53 dan oleh ahli materi dengan rata-rata sebesar 5, serta perolehan hasil angket respon guru sebesar 100% dan hasil angket respon siswa sebesar 99,23% dengan kategori

"Sangat Baik"; (3) media *game* edukasi *multiplatform* dinyatakan efektif dengan rata-rata *N-Gain Score* sebesar 0,8 dan presentase *N-Gain Score* menunjukkan angka 80,8%.

Kata Kunci: Pengembangan, Media Pembelajaran, Game Edukasi Multiplatform, Operasi Bilangan Pecahan

ABSTRACT

Ardina Fitria Ningtiyas. *Development of Educational Games as Media for Learning Mathematics to Improve Understanding of Mathematical Concepts for Grade IV Students. Thesis. Pacitan: STKIP PGRI Pacitan, 2023.*

This study aims to develop mathematics learning media in the form of multiplatform educational games on fractional operations material to increase students' understanding of mathematical concepts in grade IV and to describe: (1) the process of developing educational games as a media for learning mathematics to increase students' understanding of mathematical concepts in grade IV; (2) the feasibility of educational games as a medium for learning mathematics to increase students' understanding of mathematical concepts in grade IV; (3) the level of students' understanding after using multiplatform educational games from learning mathematics in class IV.

Multiplatform educational game learning media was developed using software construct 3 which refers to the development model or Research & Development (R&D) with the Borg & Gall development model modified by Sugiyono. Steps that have been taken include (1) potentials and problems; (2) data collection; (3) product design; (4) design validation; (5) design revisions; (6) trial use; (7) product revision. The product trial subjects were in class IV SD Negeri IV Losari as many as 10 students. The feasibility of the product refers to the results of the assessment of media experts, material experts and the responses of teachers and students. Product effectiveness refers to the results of the pre-test and post-test of the test subjects. Data collection techniques using questionnaires, written tests, and documentation. The data analysis used was product validity level technique, response questionnaire data analysis, and trial data analysis.

The results showed that a multiplatform educational game entitled "Fun Math Proficient": (1) multiplatform educational game learning media to increase students' understanding of mathematical concepts in grade IV had been developed using the Borg & Gall development model modified by Sugiyono; (2) multiplatform educational game media was declared "Very Valid" by media experts with an average score of 4.53 and by material experts with an average of 5, and the acquisition of teacher response questionnaire results was 100% and student response questionnaire results were 99.23%

in the "Very Good" category; (3) multiplatform educational game media is declared effective with an average N-Gain Score of 0.8 and the percentage of N-Gain Score shows 80.8%.

Keywords: *Development, Learning Media, Multiplatform Educational Games, Fractional Operations*