PENGEMBANGAN *GAME* EDUKASI *DUCK SHOOT* BERORIENTASI MASALAH MATEMATIKA UNTUK MENINGKATKAN KELANCARAN PROSEDURAL MATEMATIS SISWA PADA MATERI BILANGAN CACAH KELAS III SD

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ABSTRAK

Penelitian pengembangan ini bertujuan untuk mendeskripsikan rancang bangun, mengkaji tingkat validitas, dan menganalisis efektivitas *Game* edukasi *Duck Shoot* berorientasi masalah matematika dalam meningkatkan kelancaran prosedural matematis siswa kelas III sekolah dasar pada materi bilangan cacah. Penelitian ini menggunakan model pengembangan ADDIE yang meliputi tahap analisis, desain, pengembangan, implementasi, dan evaluasi. Subjek penelitian terdiri atas ahli materi dan ahli media sebagai validator, siswa pada uji coba produk, serta siswa kelas III sebagai subjek uji coba lapangan. Metode pengumpulan data meliputi angket validasi ahli serta angket respons siswa. Teknik analisis data yang digunakan adalah analisis deskriptif kuantitatif dan analisis statistik inferensial untuk menguji efektivitas produk yang dikembangkan. Hasil penelitian menunjukkan bahwa: (1) rancang bangun media pembelajaran berupa *Game* edukasi berbasis masalah menunjukkan hasil 90 % (sangat baik) ; (2) validitas *Game* edukasi berdasarkan penilaian ahli menunjukkan 94% (sangat baik), uji ahli desain pembelajaran menunjukkan 95 % (baik), uji ahli media pembelajaran 96 % (sangat baik, dan (3) hasil uji efektivitas menunjukkan dari uji perorangan 96 % (sangat baik) dan uji coba kelompok kecil 94 % (sangat baik), menunjukkan adanya peningkatan kelancaran prosedural matematis siswa secara signifikan antara sebelum dan sesudah penggunaan *Game*. Berdasarkan uji-t satu sample didapatkan nilai t-hitung sebesar 3,15. Nilai t-hitung kemudian dibandingkan dengan nilai ttabel pada taraf signifikansi 5% dengan diketahui dk = (n1 – 1) = (26 – 1) = 25 adalah sebesar 2,060. Hasil menunjukkan bahwa t-hitung > t-tabel (3,15 > 2,060), sehingga H0 ditolak dan H1 diterima. Temuan ini menunjukkan bahwa *Game* edukasi *Duck Shoot* berorientasi masalah matematika layak dan efektif digunakan sebagai media pembelajaran untuk meningkatkan kelancaran prosedural matematis siswa kelas III sekolah dasar.

Kata Kunci: *Game* edukasi, kelancaran prosedural matematis, bilangan cacah, sekolah dasar, ADDIE

DEVELOPMENT OF A MATHEMATICAL PROBLEM-ORIENTED *DUCK SHOOT* EDUCATIONAL *GAME* TO IMPROVE STUDENTS' MATHEMATICAL PROCEDURAL FLUENCY IN THE MATERIAL OF INTEGRATED NUMBERS IN GRADE III ELEMENTARY SCHOOL

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ABSTRACT

This development research aims to describe the design, assess the level of validity, and analyze the effectiveness of the Duck Shoot educational Game oriented to mathematical problems in improving the mathematical procedural fluency of third-grade elementary school students on whole number material. This research uses the ADDIE development model which includes the stages of analysis, design, development, implementation, and evaluation. The research subjects consisted of material experts and media experts as validators, students in the product trial, and third-grade students as field trial subjects. The results of the study show that: (1) The design of learning media in the form of problem-based educational Games showed results of 90% (very good); (2) the validity of the educational Game based on expert assessment showed 94% (very good), the learning design expert test showed 95% (good), the learning media expert test 96% (very good, and (3) the results of the effectiveness test showed from the individual test 96% (very good) and the small group trial 94% (very good), indicating a significant increase in students' mathematical procedural fluency between before and after using the Game. Based on the one-sample t-test, the calculated t-value was 3.15. The calculated t-value was then compared with the t-table value at a significance level of 5% with dk = (n1 – 1) = (26 – 1) = 25 being 2.060. The results showed that the calculated t-value > t-table (3.15 > 2.060), so H0 was rejected and H1 was accepted. These findings indicate that the Duck Shoot educational Game oriented to mathematical problems is feasible and effective to be used as a learning medium to improve the mathematical procedural fluency of third grade elementary school students.

Keywords: *Educational Games, mathematical procedural fluency, whole numbers, elementary school, ADDIE*