

**PENGEMBANGAN *GAME* EDUKASI “TRANSFORM.IT” BERBANTUAN
CONSTRUCT 3 UNTUK MENINGKATKAN MOTIVASI BELAJAR DAN
KEMAMPUAN PEMECAHAN MASALAH MATEMATIKA SISWA PADA
MATERI TRANSFORMASI GEOMETRI KELAS IX**

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ABSTRAK

Penelitian ini bertujuan untuk mengembangkan *game* edukasi berjudul “Transform.It” berbantuan Construct 3 yang valid, praktis, dan efektif dalam meningkatkan motivasi belajar serta kemampuan pemecahan masalah matematika siswa pada materi transformasi geometri kelas IX. Penelitian ini dilakukan karena motivasi belajar dan kemampuan pemecahan masalah matematika siswa yang masih relatif rendah, yang dipengaruhi oleh kesulitan memahami konsep, kecemasan terhadap matematika, serta penggunaan strategi pembelajaran yang kurang tepat. Pengembangan *game* edukasi “Transform.It” dilakukan dengan mengacu pada model ADDIE, mengingat struktur tahapannya relevan dalam mendukung perancangan *game* edukasi yang baik. Penelitian melibatkan siswa kelas IX SMP Negeri 1 Sukasada sebagai subjek penelitian. Instrumen penelitian meliputi angket validitas *game* edukasi dengan menggunakan LORI, angket kepraktisan *game* edukasi berdasarkan UEQ, angket motivasi belajar, dan soal uraian kemampuan pemecahan masalah matematika. Hasil penelitian menunjukkan bahwa *game* edukasi “Transform.It” mendapatkan kriteria sangat valid dengan memperoleh skor rata-rata sebesar 4,68 pada validitas materi dan 4,78 pada validitas media. Hasil uji kepraktisan *game* edukasi “Transform.It” dinyatakan praktis dengan mendapatkan rata-rata kriteria penilaian baik (*good*). Sementara itu, Keefektifan *game* edukasi menunjukkan terdapat peningkatan sedang pada kedua aspek yakni motivasi belajar dan kemampuan pemecahan masalah siswa. Dimana dengan perhitungan *N-Gain*, skor rata-rata motivasi belajar yaitu 0,49 dan skor rata-rata kemampuan pemecahan masalah sebesar 0,64. Dengan demikian, *game* edukasi “Transform.It” dapat menjadi alternatif pembelajaran berbasis teknologi yang menarik, inovatif dan efektif untuk meningkatkan motivasi belajar serta kemampuan pemecahan masalah matematika siswa.

Kata kunci: *Game Edukasi, Construct 3, Motivasi Belajar, Kemampuan Pemecahan Masalah Matematika, Transformasi Geometri*

Development of the Educational Game “Transform.It” Using Construct 3 to Enhance Students’ Learning Motivation and Mathematical Problem-Solving Skills on Geometric Transformation Topics for Grade IX

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ABSTRACT

This study aimed to develop an educational game entitled “Transform.It” using Construct 3 that is valid, practical, and effective in enhancing students’ learning motivation and mathematical problem-solving abilities on the topic of geometric transformations for Grade IX students. This study was conducted in response to the relatively low levels of students’ learning motivation and problem-solving skills, which are influenced by difficulties in understanding mathematical concepts, mathematics anxiety, and the use of less effective instructional strategies. The development of the “Transform.It” educational game followed the ADDIE development model, as its systematic stages are appropriate for supporting the design and implementation of high-quality educational games. The research subjects were Grade IX students of SMP Negeri 1 Sukasada. The research instruments included an educational game validity questionnaire based on LORI, a practicality questionnaire using the User Experience Questionnaire (UEQ), a learning motivation questionnaire, and essay-based tests to measure students’ mathematical problem-solving abilities. The results showed that the “Transform.It” educational game achieved a very high level of validity, with average scores of 4.68 for material validity and 4.78 for media validity. The practicality test results indicated that the game was categorized as practical, achieving an average evaluation criterion of good. Furthermore, the effectiveness analysis revealed a moderate improvement in both learning motivation and mathematical problem-solving abilities. Based on the N-Gain analysis, the average score for learning motivation was 0.49, while the average score for problem-solving ability was 0.64. Therefore, the “Transform.It” educational game can be considered an engaging, innovative, and effective technology-based learning alternative for improving students’ learning motivation and mathematical problem-solving abilities.

Keywords: Game Education, Construct 3, Learning Motivation, Mathematical Problem Solving, Geometric Transformation