ABSTRAK

Gabriel Immanuela Lumbantobing, NIM 4213111059 (2025), Pengembangan Media Interaktif Nearpod Berbasis Pembelajaran Matematika Realistik (PMR) pada Materi Relasi dan Fungsi untuk Meningkatkan Kemampuan Pemecahan Masalah Matematika

Hasil tes diagnostik yang dilakukan, menunjukkan sebanyak 79 % siswa masuk dalam kategori rendah kemampuan pemecahan masalahnya berdasarkan indikator Polya. Rendahnya tingkat pemecahan masalah siswa diakibatkan oleh kurangnya pembelajaran matematika kontekstual dan kurangnya fasilitas yang bisa diberikan pendidik dalam kegiatan peningkatan pemecahan masalah siswa di kelas. Atas dasar pemaparan di atas, penelitian ini dimaksudkan untuk mengembangkan media interaktif Nearpod berbasis Pembelajaran Matematika Realistik (PMR) khusus untuk materi relasi dan fungsi. Jenis penelitian yang digunakan adalah *research and revelopment* (R&D) dengan model ADDIE (Analisis, Desain, Pengembangan, Implementasi, Evaluasi). Subyek penelitian ini adalah peserta didik kelas VIII-2 UPT SMPN 5 Medan. Teknik pengumpulan data yang digunakan adalah observasi, wawancara, kuesioner dan tes hasil pembelajaran. Setelah seluruh instrumen yang digunakan dinyatakan valid oleh ahli, selanjutnya dilakukan uji coba lapangan. Hasil penelitian menunjukkan bahwa: (1) Pengembangan Media Interaktif berbasis PMR sudah memenuhi kriteria layak dengan persentase 86 %, (2) Berdasarkan angket respon pengguna media interaktif berbasis PMR yang dikembangkan sudah memenuhi kriteria praktis dengan persentase 92 %, (3) Pengembangan Media interaktif berbasis PMR sudah memenuhi efektif berdasarkan : a) ketuntasan belajar secara klasikal mencapai 93 %; b) respon positif peserta didik terhadap media yang dikembangkan menunjukkan media masuk dalam kategori efektif dengan persentase 96 %; c) hasil N-gain menunjukkan media yang dikembangkan efektif dalam meningkatkan kemampuan pemecahan masalah dengan persentase 78 %. Dengan demikian media interaktif Nearpod berbasis PMR yang dikembangkan terbukti valid, praktis, dan efektif untuk meningkatkan kemampuan pemecahan masalah matematika siswa pada materi relasi dan fungsi.

Kata Kunci: Media interaktif, Nearpod, Pendidikan Matematika Realistik (PMR), kemampuan pemecahan masalah, relasi dan fungsi, penelitian pengembangan, model ADDIE.

ABSTRACT

Gabriel Immanuela Lumbantobing, IDN 4213111059 (2025), The Development of Nearpod Interactive Media Based on Realistic Mathematics Learning (RME) on Relations and Functions Material to Improve Mathematical Problem-Solving Skills

According to Polya's indicators, the results of the diagnostic test revealed that 79% of pupils had poor problem-solving skills. Lack of contextual mathematics instruction and a lack of resources that teachers may utilize to enhance students' problem-solving abilities in the classroom were the main causes of the low level of problem-solving proficiency among the pupils. Thus, the purpose of this research is to create an interactive Nearpod media for the subject of relations and functions that is based on Realistic Mathematics Education (RME). Research and development (R&D) using the ADDIE paradigm (Analysis, Design, Development, Implementation, Evaluation) is the methodology employed. The two eighth-grade students from UPT SMPN 5 Medan served as the study's subjects. Learning outcome tests, questionnaires, interviews, and observation were the methods utilized to get the data. Field tests were carried out following the experts' certification of the validity of every instrument employed. According to the research findings, (1) the creation of RME-based interactive media has satisfied the requirements for viability with a 86 % percentage; (2) the RME-based interactive media has satisfied the requirements for practicality with a 92% percentage based on the user response questionnaire; (3) The development of RME-based interactive media has been effective based on: a) classical learning completion reaching 93%; b) positive responses from students toward the developed media indicate that the media falls into the effective category with a percentage of 96%; c) N-gain results show that the developed media is effective in improving problem-solving skills with a percentage of 78%. Thus, the Nearpod interactive media based on RME developed has been proven to be valid, practical, and effective in enhancing students' mathematical problem-solving skills on the topic of relations and functions. The Nearpod interactive media based on RME developed was proven to be valid, practical, and effective in enhancing students' mathematical problem-solving skills in the topic of relations and functions.

Keywords: Interactive media, Nearpod, Realistic Mathematics Education (RME), problem-solving skills.