ABSTRAK

Mutia Gama Mayoni. 2026. *Pengembangan Media Pembelajaran Virtual Manipulative Math Berbasis Realistic Mathematics Education (RME) Pada Siswa Kelas IV Sekolah Dasar.* Skripsi. Program Studi Pendidikan Guru Sekolah Dasar, FKIP, Universitas PGRI Madiun. Pembimbing (I) Dr. Ellys Mersina Mursidik, S.Pd., M.Pd., (II) Dr. Rissa Prima Kurniawati, S.Pd., M.Pd.

Penelitian ini dilatarbelakangi oleh rendahnya hasil pembelajaran matematika siswa kelas IV SDN Kertobanyon, yang terlihat dari hasil observasi dan tes awal yang menunjukkan siswa cenderung pasif, bermain sendiri, dan tidak berminat mengikuti pembelajaran matematika. Proses pembelajaran berlangsung dengan metode ceramah dan menggunakan media konkret yang ada di sekitar lingkungan siswa, sehingga kurang menarik minat siswa dalam pembelajaran. Penelitian ini bertujuan mengembangkan media pembelajaran *Virtual Manipulative Math* berbasis RME serta mendeskripsikan kelayakannya pada pembelajaran matematika kelas IV sekolah dasar. Penelitian ini menggunakan metode *Research and Development* (R&D) dengan model ADDIE *(Analysis, Design, Development, Implementation, Evaluation).* Media pembelajaran *Virtual Manipulative Math* dirancang dengan tampilan menarik secara visual, interaktif, dan mudah digunakan. Subjek penelitian ini adalah siswa kelas IV SDN Kertobanyon. Teknik pengumpulan data melalui observasi, angket, tes, dan dokumentasi. Instrumen yang digunakan terdiri atas lembar validasi ahli materi, ahli media, dan ahli bahasa, angket respons siswa dan guru, serta soal *pretest* dan *posttest*. Teknik analisis data yang digunakan adalah analisis deskriptif kuantitatif, yaitu data hasil validasi dan angket dihitung dengan rumus persentase lalu diinterpretasikan berdasarkan kriteria skala Likert. Hasil validasi menunjukkan persentase 100% (ahli media), 95% (ahli materi), dan 80% (ahli bahasa), dengan respons siswa 88,15% (sangat menarik) dan respons guru 84% (sangat layak). Hasil belajar siswa meningkat dari rata-rata 54,33 (*pretest*) menjadi 80,33 (*posttest*), sehingga media *Virtual Manipulative Math* berbasis RME dinyatakan layak digunakan dalam pembelajaran matematika kelas IV sekolah dasar.

Kata Kunci : Media *Virtual Manipulative Math*, *Realistic Mathematics Education*, Bangun Datar.

ABSTRACT

Mutia Gama Mayoni. 2026. The Development of Virtual Manipulative Math Learning Media Based on Realistic Mathematics Education (RME) for Fourth-Grade Elementary School Students. Thesis. Study Program of Primary School Teacher Education, Faculty of Teacher Training and Education, Universitas PGRI Madiun. Advi sors: (I) Dr. Ellys Mersina Mursidik, S.Pd., M.Pd., (II) Dr. Rissa Prima Kurniawati, S.Pd., M.Pd.

This research was motivated by the low mathematics learning outcomes of fourth-grade students at SDN Kertobanyon, as evidenced by observations and initial tests showing that students tended to be passive, played by themselves, and showed little interest in participating in mathematics lessons. The learning process was conducted using the lecture method along with concrete media available in the students' surrounding environment, which failed to attract students' interest in learning. This research aims to develop a Virtual Manipulative Math learning medium based on Realistic Mathematics Education (RME) and to describe its feasibility for use in fourth-grade elementary school mathematics instruction. This study employed the Research and Development (R&D) method using the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). The Virtual Manipulative Math learning medium was designed to be visually appealing, interactive, and easy to use. The subjects of this research were fourth-grade students at SDN Kertobanyon. Data collection techniques included observation, questionnaires, tests, and documentation. The instruments used consisted of validation sheets for material experts, media experts, and language experts, student and teacher response questionnaires, as well as pretest and posttest questions. The data analysis technique used was quantitative descriptive analysis, in which the validation and questionnaire data were calculated using a percentage formula and then interpreted based on Likert scale criteria. The validation results showed percentages of 100% (media expert), 95% (material expert), and 80% (language expert), with a student response rate of 88.15% (very interesting) and a teacher response rate of 84% (highly feasible). Student learning outcomes improved from an average pretest score of 54.33 to a posttest score of 80.33, indicating that the RME-based Virtual Manipulative Math medium was deemed feasible for use in fourth-grade elementary school mathematics learning.

Keywords : *Virtual Manipulative Math Media, Realistic Mathematics Education, Plane Shapes.*