

ABSTRAK

Wan Putri Tania, NIM 4171111057 (2021). Pengembangan *E-book* Berbasis Pendekatan Pendidikan Matematika Realistik (PMR) untuk Meningkatkan Kemampuan Komunikasi Matematis pada Siswa SMP Kelas VIII.

Penelitian ini bertujuan untuk memperoleh *e-book* berbasis pendekatan Pendidikan Matematika Realistik (PMR) yang valid, praktis, dan efektif sehingga dapat meningkatkan kemampuan komunikasi matematis siswa pada materi Sistem Persamaan Linear Dua Variabel (SPLDV). Jenis penelitian ini adalah Penelitian dan Pengembangan (R&D) dengan menggunakan model ADDIE yang terdiri dari lima tahap, yaitu *Analyze* (analisis), *Design* (perancangan), *Development* (pengembangan), *Implementation* (implementasi), dan *Evaluation* (evaluasi). Instrumen penelitian yang digunakan adalah lembar validasi angket dan lembar validasi instrumen tes, lembar validasi RPP, lembar validasi *e-book*, tes kemampuan komunikasi matematis, serta angket respon siswa dan guru terhadap *e-book*. Setelah seluruh instrumen, RPP, dan *e-book* dinyatakan valid oleh validator, kemudian dilakukan uji keterbacaan dan uji coba lapangan. Berdasarkan penelitian diperoleh hasil validasi RPP dengan persentase 88% (sangat valid), validasi *e-book* dengan persentase 82% untuk materi dan 90% untuk media dengan kategori sangat valid. Diperoleh hasil respon siswa dengan persentase kepraktisan 86% (sangat praktis) dan angket respon guru dengan persentase kepraktisan 86% (sangat praktis). Diperoleh hasil dengan memenuhi kriteria efektif dengan nilai ketuntasan belajar siswa secara klasikal 96%, lebih dari 65% siswa mencapai 75% tujuan pembelajaran untuk setiap indikator, dan waktu pembelajaran sama dengan pembelajaran biasa pada uji coba lapangan serta respon siswa baik terhadap *e-book* yang dikembangkan. Melalui uji Gain, terlihat bahwa kemampuan komunikasi matematis siswa menggunakan *e-book* berbasis PMR mengalami peningkatan sebesar 0,7 artinya dalam kategori tinggi.

Kata kunci: *e-book*, pendidikan matematika realistik, komunikasi matematis.



ABSTRACT

Wan Putri Tania, NIM 4171111057 (2021). Development of E-book Based on Realistic Mathematics Education (PMR) Approach to Improve Mathematical Communication Skills in Class VIII Junior High School Students.

This study aims to obtain an e-book based on the Realistic Mathematics Education (PMR) approach that is valid, practical, and effective so that it can improve students' mathematical communication skills on Two Variable Linear Equation Systems (SPLDV) material. This type of research is Research and Development (R&D) using the ADDIE model which consists of five stages, namely Analyze, Design, Development, Implementation, and Evaluation. The research instruments used were questionnaire validation sheets and test instrument validation sheets, lesson plans validation sheets, e-book validation sheets, mathematical communication skills tests, and student and teacher response questionnaires to e-books. After all instruments, lesson plans, and e-books were declared valid by the validator, then readability tests and field trials were carried out. Based on the research, the results of the RPP validation were obtained with a percentage of 88% (very valid), e-book validation with a percentage of 82% for material and 90% for media with a very valid category. The results of student responses with the percentage of practicality of 86% (very practical) and the teacher response questionnaire with the percentage of practicality of 86% (very practical). The results obtained by meeting the effective criteria with a classical student learning completeness score of 96%, more than 65% of students achieving 75% of the learning objectives for each indicator, and the learning time is the same as ordinary learning in field trials and student responses are good to the e-book provided. developed. Through the Gain test, it can be seen that students' mathematical communication skills using PMR-based e-books have increased by 0.7, meaning that they are in the high category.

Keywords: e-book, realistic mathematics education, mathematical communication.

