ABSTRAK

Yasmin Risha Fadhilah, NIM 4211111007 (2021). Pengembangan *E – Modul* Berbasis PBL Berbantuan QR Code Untuk Meningkatkan Kemampuan Literasi Numerasi Siswa Kelas VII SMP Negeri 34 Medan

Penelitian ini bertujuan untuk mengembangkan e-modul berbasis Problem Based Learning (PBL) berbantuan QR Code guna meningkatkan kemampuan literasi numerasi siswa kelas VII SMP Negeri 34 Medan. Jenis penelitian yang digunakan adalah Research and Development (R&D) dengan model pengembangan ADDIE yang meliputi tahap analisis, desain, pengembangan, implementasi, dan evaluasi. Produk yang dikembangkan berupa *e-modul* materi bilagan bulat yang dilengkapi QR Code utuk mengakses video, latihan interaktif, dan penjelasan tambahan. Data diperoleh melalui wawancara, angket validasi ahli, angket kepraktisan, serta tes kemampuan literasi numerasi (pretest–posttest). Hasil validasi oleh ahli menunjukkan bahwa *e-modul* berada pada kategori sangat valid dengan persentase ahli materi 83,16%, modul ajar 77,53% dan media 87%. Hasil angket respon guru dan siswa menunjukkan kategori sangat praktis, masing-masing sebesar 90,12% guru dan 81,54% siswa. Keefektifan e-modul ditinjau dari peningkatan kemampuan literasi numerasi menunjukkan nilai N-Gain sebesar 0,7 dengan kategori tinggi, serta ketuntasan klasikal siswa mencapai 96,88%, sehingga memenuhi kriteria efektif.Berdasarkan hasil tersebut, e-modul berbasis PBL berbantuan QR Code dinyatakan valid, praktis, dan efektif untuk meningkatkan kemampuan literasi numerasi siswa pada materi bilangan bulat.

Kata kunci: e-modul, Problem Based Learning, QR Code, literasi numerasi, bilangan bulat.

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ABSTRACT

Yasmin Risha Fadhilah, NIM 4211111007 (2021). Development of a PBL – Based E-Module Assisted by QR Codes to Improve the Numeracy Literacy Skills of Seventh-Grade Students at SMP Negeri 34 Medan.

This study aims to develop a Problem-Based Learning (PBL)-based e-module equipped with QR codes to improve the numeracy literacy skills of seventh-grade students at SMP Negeri 34 Medan. The type of research used is Research and Development (R&D) with the ADDIE development model, which includes the stages of analysis, design, development, implementation, and evaluation. The product developed is an e-module on integers equipped with QR Codes to access videos, interactive exercises, and additional explanations. Data were obtained through interviews, expert validation questionnaires, practicality questionnaires, and numeracy literacy tests (pre-test and post-test). The results of expert validation showed that the e-module was in the highly valid category with a percentage of 83.16% for subject matter experts, 77.53% for teaching modules, and 87% for media. The results of the teacher and student response questionnaires showed a highly practical category, with 90.12% of teachers and 81.54% of students. The effectiveness of the e-module in terms of improving numeracy skills showed an N-Gain value of 0.7 in the high category, and student classical mastery reached 96.88%, thus meeting the criteria for effectiveness. Based on these results, the QR Code-assisted PBL-based e-module is declared valid, practical, and effective in improving students' numeracy skills in integer material.

Keywords: e-module, Problem-Based Learning, QR Code, numeracy literacy, integers.

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