

ABSTRAK

Yuni Shara Paulina Simbolon, NIM 4171121038 (2022) Pengembangan Media Pembelajaran Fisika *Mobile Learning* Berbasis *Android* Pada Materi Elastisitas Dan Hukum Hooke SMA Kelas XI T.A 2021/2022

Penggunaan media yang digunakan oleh guru belum memanfaatkan teknologi *mobile learning* berbasis *android* dan siswa juga mengalami kesulitan dalam konsep fisika. Penelitian pengembangan yang dilakukan bertujuan untuk mengetahui bagaimana kelayakan media pembelajaran fisika *mobile learning* berbasis *android*, mengetahui respon pengguna media pembelajaran yang sudah dikembangkan dan mengukur keefektifan media pembelajaran dalam peningkatan pemahaman kognitif siswa. Jenis penelitian ini merupakan penelitian pengembangan atau *Research and Development (R&D)* dengan model 4-D. Subjek penelitian adalah uji coba kelompok kecil 10 siswa dan uji coba kelompok besar 34 siswa kelas XI MIA 5 di SMA Negeri 7 Medan. Instrumen yang digunakan dalam penelitian ada enam yaitu: 1)Wawancara guru; 2)Angket kelayakan ahli materi; 3)Angket kelayakan ahli media; 4)Angket kelayakan oleh pendidik; 5)Angket respon peserta didik; dan 6)Soal Soal pretest-posttest yang berjumlah 20 soal dalam bentuk pilihan berganda. Teknik analisis data menggunakan rumus persentase dan *N-gain*. Hasil uji kelayakan, diperoleh validasi dosen ahli materi sebesar 96,5% (sangat layak), ahli media pembelajaran fisika sebesar 95% (sangat layak) dan penilaian guru fisika sebesar 95% (sangat layak). Respon uji coba kelompok kecil dengan responden 10 orang diperoleh hasil efisien (3,0); produktif (2,8); aman (3,0) dan puas (3,1). Sedangkan, pada uji coba kelompok besar dengan responden 34 orang diperoleh hasil efisien (3,1); produktif (2,9); aman (3,0) dan puas (3,1). Berdasarkan perhitungan nilai gain, media pembelajaran termasuk dalam kategori sedang dalam keefektifan meningkatkan pemahaman kognitif peserta didik dengan nilai 0,64 (efektif). Dengan demikian, media pembelajaran fisika *mobile learning* berbasis *Android* yang dikembangkan layak dan efektif diterapkan dalam kegiatan pembelajaran, terutama pada materi teori Elastisitas dan Hukum Hooke.

Kata Kunci: Media Pembelajaran, *Mobile learning*, *Android*, Elastisitas dan Hukum Hooke

ABSTRACT

Yuni Shara Paulina Simbolon, NIM 4171121038 (2022) Development of Android-Based Mobile Learning Physics Learning Media on Elasticity and Hooke's Law in SMA Class XI T.A 2021/2022

The use of media used by teachers has not utilized Android-based mobile learning technology and students also have difficulty in physics concepts. The development research carried out aims to determine how appropriate the Android-based mobile learning physics learning media is, determine user responses to learning media that have been developed and measure the effectiveness of learning media in improving students' cognitive understanding. This type of research is a research and development (R&D) with a 4-D model. The research subjects were small group trials of 10 students and large group trials of 34 students of class XI MIA 5 at SMA Negeri 7 Medan. There are six instruments used in the study, namely: 1) Teacher interviews; 2) Material expert eligibility questionnaire; 3) Media expert eligibility questionnaire; 4) Eligibility questionnaire by educators; 5) Student response questionnaire; and 6) Questions Pretest-posttest questions totaling 20 questions in the form of multiple choice. The data analysis technique uses the percentage formula and N-gain. The results of the feasibility test showed that the validation of the material expert lecturer was 96.5% (very feasible), the physics learning media expert was 95% (very feasible) and the physics teacher assessment was 95% (very feasible). The response of a small group trial with 10 respondents obtained efficient results (3,0); productive (2,8); safe (3,0) and satisfied (3,1). Meanwhile, the large group trial with 34 respondents obtained efficient results (3,1); productive (2,9); safe (3,0) and satisfied (3,1). Based on the calculation of the gain value, the learning media is included in the moderate category in terms of increasing the effectiveness of students' cognitive understanding with a value of 0.64 (effective). Thus, the Android-based mobile learning physics learning media that was developed is feasible and effective to be applied in learning activities, especially on the theory of Elasticity and Hooke's Law.

Keywords: Learning Media, Mobile learning, Android, Elasticity and Hooke's Law