

ABSTRAK

Fitri Ramadani. Pengembangan Video Eksperimen Saintifik Fisika Berbasis Teknologi Informasi dan Komunikasi (TIK) Pada Materi Optik Geometri Di SMA

Pengetahuan dan teknologi selalu berkembang dan mengalami kemajuan, sesuai dengan perkembangan zaman dan perkembangan cara berpikir manusia. Perkembangan IPTEK (Ilmu Pengetahuan dan Teknologi) membawa implikasi pada tiap generasi dalam berbagai ilmu pengetahuan. Terutama dalam bidang pendidikan yang menuntut sistem pembelajaran yang dapat dilaksanakan secara efektif dan efisien. Adapun tujuan penelitian ini adalah Untuk mengetahui video eksperimen saintifik fisika berbasis Teknologi Informasi dan Komunikasi (TIK) pada materi optik geometri di SMA memenuhi syarat kualifikasi baik dalam aspek validitas, Memenuhi syarat kepraktisan peserta didik, dan untuk meningkat hasil belajar. Metode penelitian ini adalah (*research and development/R&D*) dari Borg and Gall (1988). Populasi penelitian adalah siswa kelas XI SMA Negeri 1 Takengon. Teknik pengumpulan data dalam penelitian ini adalah observasi, wawancara, dan kuesioner, sedangkan teknik analisis data yang digunakan dalam penelitian ini adalah kuantitatif dan deskriptif kualitatif. Hasil penelitian menunjukkan bahwa produk hasil pengembangan media video dinyatakan layak berdasarkan penilaian ahli, serta angket respon peserta didik dengan kategori baik.oleh ahli media video (1) memperoleh nilai rata-rata 89,8%, video (2) memperoleh nilai rata-rata 91,8%, video (3) memperoleh nilai rata-rata 93,8%, memiliki kategori valid. Oleh ahli materi video (1) memperoleh nilai rata-rata 86,8%, video (2) memperoleh nilai rata-rata 92,6%, video (3) memperoleh nilai rata-rata 89%, memiliki kategori valid. Tingkat kepraktisan video berdasarkan lima aspek uji coba kelompok kecil memperoleh nilai rata-rata 81,4% dengan kategori cukup praktis dan uji coba kepraktisan lapangan memperoleh nilai rata-rata 83,4% dengan kategori cukup praktis. Dan tingkat keefektifan video terhadap hasil belajar berdasarkan perhitungan menggunakan rumus N-gain pada nilai pretest dan posttest memperoleh 0,73 dengan kategori sangat efektif.

Kata kunci : Media pembelajaran, Eksperimen, Optik geometri

ABSTRACT

Fitri Ramadani. The Design of Video Technology Based On Scientific experimental for Geometrical Optics Subject as ICT Implementation in SMA

Knowledge and technology are always developing and progressing, in accordance with the times and the development of human thinking. The development of science and technology (Science and Technology) has implications for each generation in various sciences. Especially in the field of education which demands a learning system that can be implemented effectively and efficiently. The purpose of this study was to find out the video of scientific physics experiments based on Information and Communication Technology (ICT) on geometrical optics in high school that met the qualification requirements both in terms of validity, met the practical requirements of students, and to improve learning outcomes. This research method is (research and development (R&D) from Borg and Gall (1988). The population of this research is the students of class XI SMA Negeri 1 Takengon. The data collection techniques in this study were observation, interviews, and questionnaires, while the data analysis techniques used in this study were quantitative and qualitative descriptive. The results showed that the product developed by the video media was declared feasible based on expert judgment, as well as the student response questionnaire in the good category. By video media experts (1) obtained an average score of 89.8%, video (2) obtained an average score 91.8%, video (3) obtained an average score of 93.8%, has a valid category. By video material experts (1) obtained an average score of 86.8%, video (2) obtained an average score of 92.6%, video (3) obtained an average score of 89%, has a valid category. The practicality level of the video based on the five aspects of the small group trial obtained an average score of 81.4% in the fairly practical category and the field practicality trial obtained an average score of 83.4% in the fairly practical category. And the effectiveness of the video on learning outcomes based on calculations using the N-gain formula on the pretest and posttest scores obtained 0.73 with a very effective category.

Keywords: Learning media, Experiments, Optical geometry