

ABSTRAK

Aliya Fahmi Mu'awanah, 2023. *Pengembangan E-LKPD Gerak Parabola berbantuan Simulasi PhET untuk Meningkatkan Pemahaman Konsep dan Sikap Ilmiah Siswa..* Skripsi. Program Studi Pendidikan Fisika, FKIP, Universitas PGRI Madiun. Program Sarjana S.1. Pembimbing (I) Dra. Purwandari, M.M., M.Pd. (II) Mislan sasono, S.Pd.Si., M.Pd.

Di era digital, sumber daya manusia sekolah, termasuk sektor pendidikan, sangat terampil dalam memanfaatkan teknologi, informasi, dan komunikasi internet. Demikian pula pengelolaan proses belajar mengajar memerlukan perangkat pengajaran yang sesuai dengan perkembangan zaman. Tujuan penelitian ini adalah untuk mengembangkan alat ajar lembar kerja siswa elektronik, untuk meningkatkan pemahaman konsep dan sikap ilmiah siswa kelas XI SMA pada materi gerak parabola. Metode yang digunakan adalah RnD (research and development) dan model pengembangan ADDIE sebagai modelnya. Instrumen yang digunakan dalam penelitian ini adalah angket tertutup berdasarkan skala likert, soal pre test dan post test, serta lembar observasi sikap ilmiah siswa. Subyek penelitian adalah siswa kelas XI SMAN 2 Mejayan. Uji validitas dilakukan dengan validasi ahli media dan ahli materi. Hasil penelitian menunjukkan bahwa E LKPD Gerak Parabola layak digunakan, dengan skor rata-rata 80,4% ahli materi yang dengan kategori “layak” dan skor rata-rata ahli media sebesar 82,5% dengan kategori “ layak”. Nilai sig. diperoleh dari hasil uji-t $0,000 < 0,05$. Hasil Uji N-Gain peningkatan pemahmaan konsep sebesar 0,54 dengan kategori sedang. Hasil N-gain observasi sikap ilmiah siswa sebesar 0,43 termasuk dalam kategori sedang. Dapat disimpulkan bahwa E LKPD yang dikembangkan layak serta dapat meningkatkan pemahaman konsep dan sikap ilmiah siswa.

Kata kunci: E-LKPD, Gerak Parabola, Pemahaman Konsep, Sikap Ilmiah siswa

ABSTRACT

Aliya Fahmi Mu'awanah, 2023. Development of E-LKPD Parabolic Motion Assisted by PhET Simulation to Improve Students' Understanding of Concepts and Scientific Attitudes.. Thesis. Physics Education Study Program, FKIP, Universitas PGRI Madiun. Undergraduate Program S.1. Advisor (I) Dra. (II) Mislana Sasono, S.Pd.Si., M.Pd.

In the digital era, school human resources, including the education sector, are very skilled in utilizing technology, information, and internet communication. Likewise, the management of the teaching and learning process requires teaching tools that are in accordance with the times. The purpose of this study is to develop an electronic student worksheet teaching tool, to improve the understanding of concepts and scientific attitudes of grade XI high school students on parabolic motion material. The method used is RnD (research and development) and the ADDIE development model as the model. The instruments used in this study were closed questionnaires based on a Likert scale, pre-test and post-test questions, and observation sheets for students' scientific attitudes. The subjects of the study were students of class XI SMAN 2 Mejayan. Validity testing was carried out by validation by media experts and material experts. The results showed that the Parabolic Motion E LKPD was feasible to use, with an average score of 80.4% of material experts in the "feasible" category and an average score of media experts of 82.5% in the "feasible" category. The sig. value was obtained from the t-test results of $0.000 < 0.05$. The results of the N-Gain Test increased conceptual understanding by 0.54 with a moderate category. The results of the N-gain observation of students' scientific attitudes of 0.43 were included in the moderate category. It can be concluded that the developed E LKPD is feasible and can improve students' conceptual understanding and scientific attitudes.

Keywords: E-LKPD, Parabolic Motion, Concept Understanding, Students' Scientific Attitudes