

ABSTRACT

Lusiana, 2021 “The Development of Student’s Worksheets Based on Project Based Learning Models Assisted by Tracker Application for Simple Harmonic Motion Experiment. Thesis. Department of Post Graduate Physical Education, Faculty of mathematics and Science, Universitas Negeri Padang.

This research was backgrounded by curriculum 2013’s demand which stated that this curriculum was developed of which was advanced of technology and information, the growth of creative industry and culture, as well as the internationally educational development. Therefore, an innovation was needed; that was the development of learning model, its source, and its media which were relevant with the demand of curriculum 2013. Using the of students’ worksheet (LKPD) as one of learning sources which was easily understood by students, the project based learning model as one of the learning models and can enhance students' creativity, as well as tracker application as a learning media which was IT based that could be internationally competitive. The aim of this research was to produce LKPD based on project based learning equipped tracker application for simple harmonic motion experiment with a valid, practical and effective criteria.

The type of this research was the development using ADDIE model which consisted of some stages: analysis, design, development, implementation, and evaluation. These research instruments included a lifting analysis, an analysis sheet, a validity sheet, a practicality sheet, an objective test, a behavior observation sheet, and an ability evaluation. The data analysis technique for the validity analysis used Aiken’s, and the practicality and the effectivity of analysis using a percentage description.

The result of the research shows that the learners' work sheet is based on the project based learning models assisted by tracker application obtained by the average from the experts of (0,78). LKPD is very practical according to the teacher (87,08) and learners with a level of practicality in a row is (92,21). LKPD developed effectively in improving the competence of learners include knowledge competence (84,13), attitude competence (82,55), and Competence skills (83,48). Based on the development process LKPD developed categorically valid, very practical and effective in improving the competence of learners and can be applied to a wider scope.

Keywords : Students Worksheets (LKPD), Project Based Learning, Tracker, Simple Harmonic Motion

ABSTRAK

Lusiana, 2021 “Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis Model *Project Based Learning* Berbantuan Aplikasi *Tracker* dengan Pendekatan Saintifik pada Materi Gerak Harmonis Sederhana”. Tesis. Program Studi Magister Pendidikan Fisika Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Negeri Padang.

Penelitian ini dilatar belakangi oleh tuntutan Kurikulum 2013 yang menyatakan bahwa Kurikulum 2013 dikembangkan berdasarkan tantangan kemajuan teknologi informasi, kebangkitan industri kreatif dan budaya, serta perkembangan pendidikan ditingkat Internasional. Untuk itu, diperlukan sebuah inovasi dalam pembelajaran sejatinya pengembangan model pembelajaran, sumber belajar dan media pembelajaran yang sejalan dengan tuntutan Kurikulum 2013, menggunakan LKPD adalah salah satu sumber belajar sederhana yang mudah dipahami oleh peserta didik, model pembelajaran *project based learning* sebagai salah satu model pembelajaran dan dapat meningkatkan kreatifitas peserta didik, serta aplikasi *tracker* sebagai media pembelajaran berbasis IT yang dapat bersaing ditingkat pendidikan Internasional. Tujuan penelien ini adalah untuk menghasilkan LKPD berbasis *project based learning* berbantuan aplikasi *tracker* dengan pendekatan saintifik pada materi Gerak Harmonis Sederhana dengan kriteria valid, praktis dan efektif.

Jenis penelitian ini adalah penelitian pengembangan menggunakan model ADDIE yang terdiri tahap *analysis, design, development, implementation, dan evaluation*. Instrumen penelitian ini terdiri dari angket analisis, lembar analisis, lembar validitas, lembar praktikalitas, tes objektif, lembar observasi sikap, dan penilaian keterampilan. Teknik analisis data untuk analisis validitas menggunakan Aiken's, dan untuk analisis praktikalitas dan efektifitas menggunakan deskripsi persentase.

Hasil penelitian menunjukkan bahwa lembar kerja peserta didik berbasis model *project based learning* berbantuan aplikasi *tracker* dengan pendekatan saintifik berkategori valid yang didapat rata-rata dari para ahli (0,78). LKPD ini sangat praktis menurut pendidik (87,08) dan peserta didik dengan tingkat praktikalitas secara berturut-turut adalah (92,21). LKPD yang dikembangkan efektif dalam meningkatkan kompetensi peserta didik meliputi kompetensi pengetahuan (84,13), kompetensi sikap (82,55), dan kompetensi keterampilan (83,48). Berdasarkan hasil penelitian dapat disimpulkan bahwa LKPD yang dikembangkan berkategori valid, sangat praktis dan efektif dalam meningkatkan kompetensi peserta didik dan dapat diterapkan pada cakupan yang lebih luas.

Kata Kunci : Lembar Kerja Peserta Didik (LKPD), *Project Based Learning*, *Tracker*, Gerak Harmonis Sederhana.