

ABSTRACT

The Development of Students' Worksheet on the Basis of Project Based Learning Using Tracker Application in the Material of Kinematics Class X

Putri Heryeni

This research was backgrounded by curriculum 2013's demand which stated that this curriculum was developed by two factors; one of which was the living environmental issue, the 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. The innovation was the development of students' worksheet (LKPD) as one of learning sources which was easily understood by students, the project based learning as one of models recommended by 2013 which could improve students' competence and 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 which was on the basis of project based learning using tracker application in the material of kinematics class X, semester 1 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 analysis stage from the beginning to end a chance using tracker application. The result of students' analysis needed LKPD as a learning source and a project based learning as a model. The result of material analysis which was predominated by the principal and conceptual material. The result of the development stage was gained from LKPD referring to the analysis result. The result of the development stage was produced by a valid LKPD with a criteria ($\geq 0,6$) and used in the implementation stage. The result of the evaluation stage was produced by a practical LKPD according to teachers with a criteria (94,64), being practical according to students with a criteria (91,54), and being effective in the knowledge competence with a criteria (76,70), the behavior competence (89,35), the ability competence (87,04). Based on the developments done which started from analysis, design, development, implementation, and evaluation. It was finally gained by students' worksheet on the basis of project based learning using tracker application in the material of kinematics class X, semester 1 with a valid, effective, and practical criteria.

ABSTRAK

Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis *Project Based Learning* Memanfaatkan Aplikasi *Tracker* Pada Materi Kinematika Gerak Kelas X Semester 1

Putri Heryeni

Penelitian ini dilatarbelakangi oleh tuntutan Kurikulum 2013 yang menyatakan bahwa kurikulum 2013 dikembangkan berdasarkan dua faktor salah satunya yaitu tantangan eksternal. Tantangan eksternal antara lain masalah lingkungan hidup, kemajuan teknologi informasi, kebangkitan industri kreatif dan budaya, serta perkembangan pendidikan ditingkat internasional. Maka, diperlukan sebuah inovasi berupa pengembangan model pembelajaran, sumber belajar dan media pembelajaran yang sejalan dengan tuntutan kurikulum 2013, diantaranya LKPD sebagai salah satu sumber belajar sederhana yang mudah dipahami oleh peserta didik, model pembelajaran *project based learning* sebagai salah satu model pembelajaran yang dianjurkan dalam kurikulum 2013 dan dapat meningkatkan kompetensi dan kreatifitas peserta didik, serta aplikasi *tracker* sebagai media pembelajaran berbasis IT yang dapat dapat bersaing di tingkat pendidikan internasional. Tujuan penelitian ini adalah untuk menghasilkan LKPD berbasis *Project Based Learning* memanfaatkan aplikasi *tracker* pada materi kinematika gerak kelas X semester 1 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 tahap *analysis* dari analisis awal-akhir adalah peluang menggunakan aplikasi *tracker*. Hasil analisis peserta didik membutuhkan LKPD sebagai sumber belajar dan *project based learning* sebagai model pembelajaran. Hasil dari analisis materi yang didominasi oleh materi konsep dan prinsip. Hasil dari tahap *design* diperoleh LKPD yang mengacu dari hasil *analysis*. Hasil tahap *development* dihasilkan LKPD yang valid dengan kriteria ($\geq 0,6$) dan digunakan pada tahap *implementation*. Hasil tahap *evaluation* dihasilkan LKPD yang praktis menurut guru dengan kriteria (94,64), praktis menurut peserta didik dengan kriteria (91,54) dan efektif pada kompetensi pengetahuan dengan kriteria (76,70), kompetensi sikap (89,35), kompetensi keterampilan (87,04). Berdasarkan pengembangan yang dilakukan mulai dari tahap *analysis, design, developoment, implementation, dan evaluation* diperoleh Lembar Kerja Peserta Didik (LKPD) berbasis *project based learning* memanfaatkan aplikasi *tracker* pada materi kinematika gerak kelas X semester 1 dengan kriteria valid, praktis dan efektif.