ABSTRACT

Susri Lismidarni. 2019. Development of Student's Worksheets Based On *Project Based Learning* Assisted *Tracker* Application With a Scientific Approuch on the Topic of Kinematics For 10th Grade Senior High School, Thesis. Magister of Program in Physics Education, Math and Sciences Faculty, Universitas Negeri Padang.

This reseach is motivated by physics learning that has not been running according to the curriculum 2013 reference. The curriculum 2013 was develop based on two factors, one of which is external challenges including environment issuess, advancement of information technology, the rise of creative and cultural industries and development of education at the international level. An innovation is needed in the form of developing models, sources and learning media that are in line with the demands of the currculum 2013as one simple learning resource that easily understood by student. The project based learning model as one model of the models recommended in the curriculum 2013 because it can improve student competence and creativity as well as the tracker application as an IT based learning media that can complete at Internatinal levels. The purpose in study was produce project based learning assisted tracker application with scientific approuch on the topic of kinematics for 10th grade senior high school with valid, practical, and effective criteria.

This type of reseacrh is R & D using plomp model which consist of the *preliminary research, development or prototyping phase, and assesment phase.* The reseach data consists of data on validity, practicality, and effectiveness. The instrument of this study consisted of a validation sheet, a practice sheet of student and teachers, attitude observation sheets, multiple choice tests and skill assessment sheets. The data analysis technique uses deskriptive percentages.

The results of initial analysis of the performance analysis with good categories. Student analysis results on aspect of knowledge ans skills need be improved. Material analysis results are obtained to adjust the selection of material to be taught. The result of design phese research obtained LKPD that was design project based learning models assisted tracker application with scientific approach. The results of the reseacrh of development stage were generated LKPD with valid criteria of (0,77). The Implementation phase of LKPD fulfills the practical criteria according to the teacher (79,9), practically according to students with the criteria (87,8). Attitude competence (81,9), skills competence (81,8). Based on the results of the study it can be produce project based learning assisted tracker application with scientific approuch on the Topic of Kinematics For 10th Grade Senior High School with valid, practical, and effective criteria.

ABSTRAK

Susri Lismidarni. 2019. Pengembangan LKPD Berbasis Model *Project Based Learning* dengan Pendekatan Saintifik Berbantuan Aplikasi *Tracker* Pada Materi Kinematika Gerak Kelas X SMAN 3 Padang. Tesis. Program Studi Magister Pendidikan Fisika Fakultas Matematika dan Ilmu Pengetahuan Alam Universitas Negeri Padang.

Penelitian ini dilatar belakangi oleh pembelajaran fisika yang belum berjalan sesuai dengan acuan kurikulum 2013. 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 karena dapat meningkatkan kompetensi dan kreatifitas peserta didik, serta aplikasi *tracker* sebagai media pembelajaran berbasis IT yang dapat bersaing ditingkat pendidikan internasional. Tujuan penelian ini adalah untuk menghasilkan LKPD berbasis model *Project Based Learning* dengan pendekatan saintifik berbantuan aplikasi *tracker* pada materi kinematika gerak kelas X dengan kriteria valid, praktis dan efektif.

Jenis penelitian ini adalah penelitian pengembangan menggunakan model Plomp yang terdiri dari tahap *preliminary research, development or prototyping phase, and assesment phase.* Instrumen penelitian ini terdiri dari angket analisis, lembaran analisis, lembar validitas, lembar praktikalitas, tes objektif, lembar observasi sikap, dan penilaian keterampilan. Teknik analisis data menggunakan deskripsi persentase.

Hasil tahapan analisis awal-akhir berupa analisis performa dengan kategori baik. Hasil analisis peserta didik pada aspek pengetahuan dan keterampilan perlu ditingkatkan. Hasil dari analisis materi diperoleh untuk menyesuaikan pemilihan materi yang akan diajarkan. Hasil penelitian tahap desain diperoleh LKPD yang dirancang berbasis model *project based learning* dengan pendekatan saintifik berbantuan *tracker*. Hasil penelitian tahap pengembangan dihasilkan LKPD yang valid (0,77). Tahap Implementasi LKPD memenuhi kriteria praktis menurut guru dengan kriteria (79,9), praktis menurut peserta didik dengan kriteria (87,8) dan efektif pada kompetensi pengetahuan dengan kriteria(82,57), kompetensi sikap (81,9), kompetensi keterampilan (81,8). Berdasarkan hasil penelitian dapat disimpulkan LKPD berbasis model *project based learning* dengan pendekatan saintifik berbantuan aplikasi *tracker* dengan kriteria valid, praktis dan efektif.