

ABSTRAK

Irwan S. T. Simanihuruk, NIM 4183121060 (2022). Pengembangan Lembar Kerja Peserta Didik (LKPD) Berbasis REACT Untuk Meningkatkan Keterampilan Proses Sains Dan Hasil Belajar Peserta Didik Pada Materi Energi Dan Usaha Di SMA N 8 Medan.

Penelitian pengembangan ini bertujuan untuk menghasilkan LKPD berbasis REACT pada materi energi dan usaha yang layak digunakan untuk meningkatkan keterampilan proses sains dan hasil belajar peserta didik. Jenis penelitian ini merupakan *Research and Development (R&D)* menggunakan model 4D oleh Thiagarajan. Subjek dalam penelitian ini adalah ahli desain, ahli materi, ahli pembelajaran, guru fisika dan peserta didik kelas X MIA 1 SMA N 8 Medan yang berjumlah 29 orang. Instrumen yang digunakan dalam penelitian ini terdiri dari angket uji kelayakan ahli desain, ahli materi, dan ahli pembelajaran, angket penilaian guru, lembar observasi, instrumen soal *pretest-posttest* KPS, soal hasil belajar serta angket respon pengguna terhadap LKPD berbasis REACT. Hasil penelitian menunjukkan bahwa LKPD berbasis REACT yang dikembangkan berada kategori sangat layak digunakan dalam proses pembelajaran berdasarkan hasil uji validasi ahli desain (96,43%), ahli materi (92,86%), ahli pembelajaran (96,67%) dan guru fisika (91,07%). Pada uji coba LKPD diperoleh hasil observasi 86,08% dan respon peserta didik 90,64%. Berdasarkan perhitungan N-gain, LKPD berbasis REACT termasuk dalam kategori sedang untuk meningkatkan KPS peserta didik dengan nilai 0,68. Hasil ketuntasan belajar peserta didik sebesar 86,21% dan rata-rata hasil belajar 84,60. Dengan demikian disimpulkan bahwa LKPD berbasis REACT layak, praktis, dan efektif digunakan untuk meningkatkan KPS dan hasil belajar peserta didik.

Kata kunci: Pengembangan, LKPD, REACT, keterampilan proses sains, hasil belajar



ABSTRACT

Irwan S. T. Simanihuruk, NIM 4183121060 (2022). Development of REACT-Based Student Worksheets (LKPD) to Improve Science Process Skills and Student Learning Outcomes on Energy and Work at SMA N 8 Medan.

This development research aims to produce REACT-based worksheets on energy and work that are feasible to use to improve science process skills and student learning outcomes. This type of research is Research and Development (R&D) using a 4D model by Thiagarajan. The subjects in this study were design experts, material experts, learning experts, physics teachers and 29 students of class X MIA 1 SMA N 8 Medan. The instruments used in this study consisted of a questionnaire of design experts, material experts, and learning experts, teacher assessment questionnaires, observation sheets, KPS pretest-posttest questions instruments, learning outcomes questions and user response questionnaires to REACT-based worksheets. The results showed that the REACT-based worksheets that were developed were categorized as very suitable for use in the learning process based on the results of the validation test by design experts (96.43%), material experts (92.86%), learning experts (96.67%) and physics teachers. (91.07%). In the LKPD trial, the results of the observation were 86.08% and the student response was 90.64%. Based on the N-gain calculation, REACT-based LKPD is included in the medium category to improve students' KPS with a value of 0.68. The results of students' learning mastery are 86.21% and the average learning outcomes are 84.60. Thus, it is concluded that REACT-based worksheets are feasible, practical, and effective to be used to improve KPS and student learning outcomes.

Keywords: Development, LKPD, REACT, science process skills, learning outcomes

