

The Development of Experiment Student Worksheet Based on Guided Inquiry Assisted by PhET Simulation in Work and Energy Topic

Meliana Ecclesia Manurung
(NIM 4172121028)

ABSTRACT

This development research aims to produce an Experiment Student Worksheet Based on Guided Inquiry Assisted by PhET Simulation in Work and Energy Topic which is feasible to be applied in the physics learning process in schools and to determine the response of students after using the developed LKPD. The subjects in this study were students of class X MIA 1 SMA Negeri 10 Medan, with the total of 35 students. This type of research is a research development or Research and Development (R&D) using 4D Models but limited to the development stage. The instruments used in this study consisted of a validation questionnaire for material experts and media experts, a physics teacher assessment questionnaire, and a student response questionnaire to the Experiment Student Worksheet Based on Guided Inquiry Assisted by PhET Simulation in Work and Energy Topic. The data analysis technique used in this research is descriptive. From the results of data analysis, it was obtained that the validation of material experts was 93%, learning experts was 92%, the physics teacher's assessment was 97% with each of these percentages included in the very feasible category. The response of students in a small-group trial with a sample of 9 people of 95% was included in the very feasible criteria. Whereas in the large-group trial the percentage of student responses with a sample of 35 people was 94% with very feasible criteria, so based on the results of the validation, physics teacher assessment and student responses, it can be concluded that Experiment Student Worksheet Based on Guided Inquiry Assisted by PhET Simulation in Work and Energy Topic is suitable for use in the learning process.

Keywords: *Development, Experiment Student Worksheet, Guided Inquiry, PhET Simulation, Work and Energy*