

ABSTRACT

Anayosi Br Ginting, NIM 4183322002 (2018). The Development Of E-Modules Based On Problem Based Learning On Work And Energy Materials To Improve Students Learning Outcomes In SMA Negeri 1 Tanah Pinem.

The objectives of this research is to develop an e-module based on problem based learning in physics subjects on work and energy materials that meet valid, practical, and effective criteria. The subjects in this study were students of class X MIA 1 SMA Negeri 1 Tanah Pinem. The research method uses the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation). Data collection techniques in the form of interviews, documentation, questionnaires and tests. The research instruments were interview guides, supporting documents, module validity test questionnaires by material experts and media experts, student response questionnaires and teacher responses to the module practicality test, and pretest and post-test questions to test the effectiveness of the module. The results showed that based on the validity test of media experts, a percentage of 90.95% was obtained with very valid criteria and the material expert validity test obtained a percentage of 98.63% with very valid criteria. Based on the practicality test given to the teacher, it was found that the developed module was stated to be very practical with a practicality percentage of 91%, the practicality test was given to a small group with 10 respondents, it was found that the developed module was stated to be very practical with a practicality percentage of 89% and a large group practicality test. with 33 respondents stated to be very practical with the percentage of practicality 95.28%. While the module effectiveness test was given, the pretest results with an average value of 14.97 and posttest with an average value of 80,85 with an n-gain value of 0.78 with a high category, the level of effectiveness is very effective. This shows that the developed module has met the valid, practical and effective criteria.

Keywords: E-module, Problem Based Learning, Work and Energy, Outcomes