MAKING OF THE WORK EXAMPLE APPLICATION BASED ON ANDROID TO DEVELOP ABILITY OF PROBLEM SOLVING IN PHYSICS OF HIGH SCHOOL STUDENTS

by Warsono, Supahar, Yohanes Kurniawan, Mitra Yadiannur, M. Habibi

ABSTRACT

This research aims to create an application of a worked example that can be used on android smartphones. The product is tested in the classroom to determine the feasibility and improvement of problem solving ability of the students in high school. The method used in the study is the Research and Development (R & D) with 4-D model (Define-Design-Develop-Disseminate). In the Define phase, we studied the literature of problem solving steps, chose the materials physics and chose the mathematical and graphical representation to be developed in the application of Worked Example. The design step includes the manufacture of media design (storyboard), the determination of materials, manufacture and discussions about the initial design and manufacture of Worked Example using the application of the Construct 2. Further, at the Development step, the initial product developed into a finished product after going through the validation phase of the matter experts, media experts and limited testing. In this study, disseminate step is limited to the use of the product on a wider scale. The results showed that the worked example applications that has been created and applied to devices android smartphone has been decent used in the teaching of physics in high school students. The results showed that the worked example applications that has been created and applied to devices android smartphone has been decent used in the teaching of physics in high school students. This is shown by the validity of the material with CVI value equal to 0.80; the validity of media with CVI value equal to 0.77; and the validity of legibility with CVI value equal to 0.81. Usage of the Work Example also improved the ability of problem solving of high school students that indicated by the value of the gain scores. In the experimental group, the value of score gain with high category is 87%, much higher than the control classes with the score of higher category equal to 24.2%.

Kata Kunci: *worked example, android, problem solving*