## Develoment of The Computer Simulation of Oscillation in Physics Learning

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Abstract	The simplest mechanical system that shows such motion oscillation is a simple pendulum, which consists of a mass suspended from a rope, so that it can swing freely in response to the force of gravity. This teaching materials in the Fundamental Physics Subject. Other teaching materials related to oscillation motion are simple linear harmonic oscillations. This research aimed to develop the computer simulation of oscillation in physics learning by using MATLAB. The use of simulations within teaching process had a positive impact on students' being able to predict and explain the phenomena. It also designed to provide possibility to explore physics phenomenon which cannot be realized in school conditions. The simulation can direct the student to reveal the existence of equilibrium between the two sides of an equation rather than causal relations. The research method used was Research and Development (R&D) developed by Borg & Gall (1983) for developing educational products. They are the pre-product form was developed by creating computer programs based on algorithms, validation through forum group discussion carried out by several lecturers to provide validation of the pre-product magor product revision, the pre-trial by 10 students, operational product revision, the operational product trevision, and dissemination. The steps were research and information collection, planning, develop a preliminary form of product, preliminary testing, main product revision, main field testing, and operational product revision. In the step of the main field testing, it was applied to the class of students. The 33 students and 6 lecturers were asked to respond about it. A qualitative test review was conducted through expert judgement for validation. They provided an assessment of suitability between the item with the indicator in the form of a Likert scale with five answer options. Based on expert judgment realated to the feasibility of the test, V Aiken index is also calculated. The data analysis techniques were descriptive analysi
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