

EVALUATION OF VIRTUAL LABORATORY BASED APPLICATIONS IN PHYSICS TEACHING

Özden Karagöz- Mirçık
Karadeniz Teknik Üniversitesi
Trabzon
ozdenkar@gmail.com

Prof. Dr. Ahmet Zeki Saka
Karadeniz Teknik Üniversitesi
Trabzon
azsaka@gmail.com

Abstract

The aim of this study is to evaluate implementation process of the Edison5 and CrocodilePhysics401 virtual laboratory software programs prepared for teaching physics in the classroom and the problems encountered during application based on opinions of students about them. The study was conducted based on action research method with 35 9th-grade students studying at Istanbul Kucukcekmece Orhan Cemal Fersoy Anatolian High School, in the 2012-2013 school year. During the process, participation of the students in the sampling that used different virtual laboratory software programs was observed, and their opinions were taken. Furthermore, students were requested to create the required experimental setups and to save them on their computers. Observation of students, the experimental setup files and the data obtained from the worksheets were examined. At the end of the study, students found the CrocodilePhysics 401 virtual laboratory program more favorable in terms of usability, while the Edison5 software program was found to be more effective in terms of the contents and the design. It has been established that the virtual laboratory software programs to be used in Physics lessons should comply with the technology existing at schools, provide facilities in use of mouse, contain graphs from the real life, be entertaining, and have no limitations in terms of different experimental setups. The study was concluded by presenting recommendations, which could provide guidance to teachers, students, and companies designing such software programs.

Keywords: Physics Teaching, Virtual Labs, Edison5, Crocodile Physics 401.