

ABSTRACT

A STUDY ON 3D-VIRTUAL REALITY IN SCIENCE EDUCATION PROGRAMS: “SOLAR SYSTEM AND BEYOND: SPACE PUZZLE” UNIT SAMPLE

Volkan Aydın ARICI

M.Sc. Thesis, Department of Elementary Education

Supervisor: Assist. Prof. Dr. Hilal AKTAMIŞ

2013, 137 pages

In this study it is aimed to examine the effects of three dimensional visual materials provided by virtual reality software on seventh grade students' retention and success on astronomy subjects in science and technology lessons. In accordance with this aim, worksheets that are compatible with virtual reality software are developed in order to help seventh grade students to structure astronomy subjects better in their mind. Prepared worksheets using virtual reality software were administered to seventh grade students with average socio-economic level in a chosen Primary school in Aydın. The model of the study is Pre-test/Post-test control group design. Study group is composed of 60 students; 30 students in the experimental group and 30 students in control group. Astronomy achievement test composed of 20 items and has .73 reliability level was applied to the study group as pretest before the study, posttest after the study and retention test three months after the study. In order to identify whether there is a significant difference between experimental and control group according to the applied method “two way ANOVA for mixed measures” was used. One way ANOVA analysis for related samples was done in order to identify the effects of practices done with the help of virtual reality software and teaching done without any change in practice on retention. At the end of the study it was seen that at the end of education given using virtual reality software experimental group students' academic success increased more than control group students' success. It was found out that instruction given using virtual reality software was more effective.

Key words: Astronomy education, science education, virtual reality