

The Impact of Computer Aided Education on the Student Success and the Student Attitude against the Lesson in the “Solar System and Beyond, Space Riddle” Unit

Regaip ŞAHİN
Kafkas University, Turkey
e-mail: Rsahin66@hotmail.com

Uğur AKBABA
Kafkas University, Turkey
e-mail: ugurakbaba@hotmail.com

Citation: Şahin, R. & Akbaba, U. (2018). The Impact of Computer Aided Education on the Student Success and the Student Attitude against the Lesson in the “Solar System and Beyond, Space Riddle” Unit. E-Kafkas Journal of Educational Research, 5(1), 10-24.

Extended Summary

Introduction: Computer is seen as an indispensable educational tool today's. The concept of computer-aided teaching method is settled in educational literature. As in all branches, computers are widely used in science education. The impact of computer-aided teaching on student achievement is a very popular research topic nowadays. This study was carried out in order to investigate this effect particularly in science lesson. The study is a semi-experimental study appropriate to the pretest-posttest form with control group. In this study, the effect of "computer-aided teaching" on the level of access to the aims of science and technology course was investigated.

Method: The research was carried out at Şehit Recep Eşiyok Secondary School in Bayburt province center in Turkey. This school has the necessary computer infrastructure. The universe of the work is the students of Şehit Recep Eşiyok Secondary School located in the Bayburt province center. The sampling is the 7th grade students in the school. The research group consists of 40 students. There were 20 students in the experimental group (9 female, 11 male) and 20 students in the control group (12 female, 8 male). The research was carried out at the 7th grade level on the "Solar System and Beyond; Space Riddle" unit. One experiment and one control group were established. Computer-aided teaching method for the experimental group and traditional teaching method for the control group were applied. This application lasted for 4 weeks. The sixth grade year-end scores of the students were accepted as pre-tests. At the end of the study, the data were collected using Science and Technology Achievement Test and Attitude Scale against the Lesson. Training and development studies were carried out for the students' basic computer skills in the school where the research was carried out. In addition, it was observed that the computer skills of students were almost the same. Statistical analyzes of the obtained data were made by using SPSS 22.00 package program. Prior to statistical analysis, it was examined whether the data exhibit normal distribution. For this, the normality test was applied in the SPSS 22.00 package program and the data showed normal distribution. For this reason, t-test was used in the research. Some assumptions must be made to use these tests. That's why, the t-test assumptions were examined and the necessary assumptions were found to be satisfied. The following results were obtained after the data evaluation.

Findings: 6th grade science and technology course final exam scores were analyzed. In the performed statistical analyzes, It was observed that there was no significant difference in pre-test results of the students in the groups [$t(38) = 0,541$; $p=0,592$; $p > 0,05$]. It is seen that there is a statistically significant difference in the t-test results applied for the final test academic achievement scores ($p = 0.000$; $p < 0.05$). The final test academic achievement averages of the students in the experimental group were 77.80 and the final test academic achievement averages of the students in the control group were 48.75. There is no statistically significant difference in the t-test results for post-test academic attitude scores [$t(38) = -1,461$; $p = 0.152$; $p > 0,05$].

Conclusion and Discussion: (1) It was observed that the experimental group students had higher academic achievement scores than the control group students. (2) There was no significant difference between attitude scores for science and technology lesson in terms of groups.

As a result, the following suggestions can be made; the use of computer aided teaching method in all lessons will be very useful for students and teachers. It has been observed that the activities related to the Solar System Scope program are very interesting for the students. For this reason, these types of activities should be included in the teacher's guidebooks. Computers used in schools must have software that supports education and

training. Otherwise, students will not be able to gain targeted attitudes. The work done was compared only with the traditional teaching method. In the next studies, computer aided teaching method can be compared with all other teaching methods. The effect of computer assisted teaching method in all other courses besides science education can also be investigated. In subsequent studies, the attitude and achievement gap between male and female students can be investigated.