Online Puzzles as a Course-End Activity: Effects on Student Achievement, Retention and Attitudes

Assist. Prof. Dr. Zülfü Genç  
Firat University, zgenc@firat.edu.tr

Emrah Aydemir  
Istanbul Ticaret University, eaydemir@ticaret.edu.tr

Abstract

This study investigated the effects of the use of Online Puzzle System (OPS), an alternative learning strategy, on the learning and achievement levels of students. A pre- and post-test experimental model was used. In the study, 30 students were chosen from each of the tenth grade classes of the Department of Information Technologies of Gazi Anatolia Technical and Industrial Vocational High School in Elazığ. In total, experimental and control groups consisting of 60 students were formed. These groups were equalized based on a pre-test implemented in the ‘Fundamentals of Information Technologies’ course. The control group received traditional instruction; in addition to traditional instruction, the experimental group conducted puzzle activities with the OPS. Four weeks after implementation, an academic achievement test was re-applied to the groups to determine learning retention. In analysis, pre- and post-test means and standard deviation distributions were calculated, and t-test was used to determine significant difference. Moreover, the Online Puzzle Use Attitude Scale developed by the researcher measured the effects of the puzzles. It was concluded that using online puzzles increases academic achievement and retention. Moreover, it was seen that students enjoy online puzzles and think they are helpful in recalling technical terms.

Keywords: Online Puzzles, Crossword Puzzles, Interactive Learning, Academic Achievement, Retention.