Abstract

The Effect of Using The Electronic Learning Package on Achievement and Attitudes In teaching mathematics to middle school students

Aimed of the study: This study aimed to investigate The Effect of Using the Electronic Learning Package on Achievement and Attitudes In teaching mathematics to middle school students, it attempted to answer the following questions:

Questions the study: The study focused on answering the following questions
Q 1: What is the model adopted by the researcher to build educational Electronic Learning Package?
Q 2: Are there statistically significant differences in the significance level of 0.05 among the average of students' achievement grades in the experimental group and the average of students' achievement grades in the controlled group in the post testing, at the remembering level, after controlling the pre testing?
Q 3: Are there statistically significant differences in the significance level of 0.05 among the average of students' achievement grades in the experimental group and the average of students' achievement grades in the controlled group in the post testing, at the comprehension level, after controlling the pre testing?
Q 4: Are there statistically significant differences in the significance level of 0.05 among the average of students' achievement grades in the experimental group and the average of students' achievement grades in the controlled group in the post testing, at both remembering and comprehension levels, after controlling the pre testing?
Q 5: Are there statistically significant differences in the significance level of 0.05 among the average of the attitudes of the experimental group (learning electronic package) and the average of the attitudes of the controlled group regarding the teaching of mathematics?

Study hypotheses: that included four hypotheses, however, is "There are statistically significant differences in the significance level of 0.05 among the average of students' achievement grades in the experimental group and the average of students' achievement grades in the controlled group in the post testing, at the levels of knowledge : (the remembering - the comprehension - both remembering and comprehension), and the attitudes, after controlling the pre testing.

The study adopted the quasi experimental design. The researcher suggested a model for designing the e-learning package for analytic geometry module in the third intermediate grade. He designed, implemented and evaluate the proposed e-learning product. In addition to that, he produced a manual describing how to use the package for both student and tutor. He conducted the experimentation on a sample of third intermediate grade students in the pioneering Al-Farouk school. The sample size was (60) students in which they were divided into two main groups. The first group has been taught using the proposed e-learning package, whereas the second group has been taught based on traditional learning. The experiment was conducted in the second semester 2010 (1430/1431H).

The researcher prepared an achievement test which encompasses both levels of remembering and comprehension based on Bloom's taxonomy as well as the Maquashi's attitude scale toward the Mathematics. He applied the test and the attitude scale at the beginning and at the end of the experiment. To verify the study hypotheses, the data has been analyzed using the analysis of covariance (ANCOVA).

Results of the study: The final result of the study shows that, there are statistically significant differences in the significance level of 0.05 among the average of students' achievement grades in the experimental group and the average of students' achievement grades in the controlled group in the applying the post achievement testing (for the test as a whole as well as for each knowledge level) which support the trend of the experimental group.

The final result of the study shows that, there are statistically significant differences in the significance level of 0.05 among the average of students' attitude in the experimental group and the average of students' attitude in the controlled group in the applying the post attitude scale which supports the trend of the experimental group.

Recommendations: The recommendations are summarized in the followings:
1. Making use of the proposed e-learning package in teaching geometry topics for third intermediate grade students, The necessity of giving more interesting and cooperating between the Ministry of Education and other academic institutions to produce more e-learning package based on the web technology.