

ABSTRACT

The Impact of Learning Computer Programming Language (Visual Basic) On Enhancing The Ability In Math Modeling and Problem Solving Of University Students In Jordan.

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The purpose of this study is to identify the impact of learning computer programming language (Visual Basic) on enhancing the ability in math modeling and problem solving of university students in Jordan.

The objective of this study is to answer the following question:

- 1- Is there an impact for learning computer language on enhancing the math modeling capabilities of the university students ?

Two question are raised from such question:

- a. Is there an impact for learning computer language on enhancing the math modeling capabilities of the university students in the faculties of humanities ?
 - b. Is there an impact for learning computer language on enhancing the math modeling capabilities of the university students in the faculties of science?
- 2- Is there an impact for learning computer language on enhancing the problem solving skills of the university students ?

Two question are raised from such question:

- a- Is there an impact for learning computer language on enhancing the problem solving skills of the university students in the faculties of humanities ?
- b- Is there an impact for learning computer language on enhancing the problem solving skills of the university students in the faculties of science?

The study sample consisted of (84) students in the colleges of Humanities and Science at the university of Petra.

The students were taught computer skills, which is basically a visual basic course, and considered as a compulsory university requirement for all majors.

The difference in teaching methods between colleges of humanites and science was only in the language used as means of instruction; whereas Arabic was used as means of instruction in the colleges of humanities, and English was used in the colleges of science.

In order to achieve the aims of the study, the researcher prepared two scales; one for math modeling and the other for problem solving.

Scales validity was verified by a number of arbitrators. Reliability

Coefficient was calculated for both scales, where the reliability coefficient for problem solving scale was (0.84) and for math modeling scale (0.9).

The two scales were applied to students at the beginning of the second semester (academic year 2004-2005), and were applied again at the same semester. The researcher used T-test for dependent samples at significance level ($\alpha = 0.5$) and the statistical results revealed the following :

- 1- There are differences between students' averages in pre-test and post-test on math modeling in favor of post-test.
- 2- There are differences between students' averages in the colleges of humanities in pre-test and post-test on math modeling in favor of post-test.
- 3- There are differences between students' averages in the colleges of Science in pre-test and post-test on math modeling in favor of post-test.
- 4- There are differences between students' averages in pre-test and post-test on problem solving in favor of post-test.
- 5- There are differences between students' averages in the colleges of humanities in pre-test and post-test on problem solving in favor of post-test.
- 6- There are differences between students' averages in the colleges of Science in pre-test and post-test on problem solving in favor of post-test.

All differences confirmed that there is an impact for learning computer programming language (Visual Basic) on students' capacity building in math modeling and problem solving.

In light of these results, the researcher recommended the need to pay attention to problem solving and math modeling, and to choose the effective programs that would develop such capacity building; like computer programming.

The researcher asserted the need for a minimum computer programming knowledge to be given to students in the basic cycle of education such a LOGO language and then gradually introduc other modern languages such as Visual Basic.