


Chapter 11

Designing an Interactive Website Based on “Life Mathematics” to Develop Mathematical Problem-Solving Skills and Reduce the Level of Anxiety

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ABSTRACT

The aim of the research is to design an “interactive website based on life mathematics” to develop mathematical problem-solving skills and reduce the level of

DOI: 10.4018/979-8-3373-1190-6.ch011

anxiety among secondary students in Palestine. Researchers used the experimental curriculum with a semi-experimental design. The sample consisted of (40) students, from eleventh grade scientific secondary students, who were distributed equally to two groups: Experimental, examined the content of the module (equations and discrepancies) using the interactive website based on life mathematics, and control group who studied the same content in the usual way. The data was collected using the mathematical problem-solving skills test and mathematical anxiety scale. The results showed a statistically different between the two groups' students (experimental and control), in the testing of mathematical problem-solving skills for the students of the experimental group, and the absence of a difference between the students of the two groups in the mathematical anxiety scale.

INTRODUCTION

This search aims to designing an interactive website based on “life Mathematics” to develop problem-solving skill and reduce the anxiety among secondary students, in scientific stream in Palestine. To achieve the research objectives, an interactive website has been designed specifically for the units of equations and inequalities using the (Google site) application, and it has been connected to a collection of virtual techniques that mimic some actual circumstances involving students utilizing the cloud computing service displayed by the (Geogebra) program. To ensure that students can interact and respond to the activities presented on the website, a set of electronic tests has been designed through (Google Forms). Additionally, a unique group was created for the pupils using the (WhatsApp), to create a space where students can talk about and inquire about unclear things. And in order to collect the required data, the following research tools were designed: an equivalence test in the unit of equation and inequalities, a test of mathematical problem solving skills, and a scale of mathematics anxiety. The search sample consisted of 40 students from the secondary school scientific education in Qabatia, Palestine. The sample was divided into two groups: an experimental group that studied the unit content (equations and inequalities) by using an interactive website based on life mathematics, and control group that studied the same content with a traditional method. The research and its tools were applied during the second semester of the 2023/2024 academic year. The results showed a significant difference between the two groups in the test of mathematical problem-solving skills in favor of the experimental group, which indicates the effectiveness of the interactive website based on life Mathematics of developing problem-solving skills. There is another result showed that there is no significant difference between the two groups in the post-test of mathematical anxiety scale, indicating that the interactive website was not able to reduce the level of anxiety in

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