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THE EFFECT OF STRATEGY TEACHING IN CONTEXTUAL PROBLEM SOLVING ON STUDENTS' SUCCESS AND ATTITUDES

ABSTRACT

The aim of this study is to research the effect of strategy teaching in contextual problem solving on students' mathematical success and attitude in secondary school 6th grade mathematic course.

In the study qualitative and quantitative methods were used. Population of the study is composed of 6th grade students studying in Çine county in Aydın. Qualitative and quantitative study group of the study is composed of 6th grade students studying in a state school in Çine county in Aydın.

With qualitative dimension of the study, it is aimed to determine the ideas about and solving processes of contextual problems of students. In the context of qualitative dimension, data obtained from semi-structured interview forms were analyzed descriptively and after this analysis, two synthesis strategies were developed connected to the existing strategies for the solution of contextual problems. In the quantitative dimension of the study semi-experimental design was used which is one of the experimental designs. In the study, in order to determine the efficiency of the strategy taught in the solution of contextual problems, "Contextual Problems Achievement Test" was developed and item analysis, validity and reliability analysis were made. The KR-20 reliability coefficient of the achievement test is 0.793. At the end of the analysis, the last form of the achievement test were composed of 15 items. The achievement test were applied to experiment and control groups as pretest, posttest and permanency tests. In order to determine attitudes of the students in control and experiment groups towards mathematics, attitude towards mathematics scale, which was developed by Geban, Ertepınar et al. (1994), applied in mathematics by Uygun (2008) and reliability analysis of which was made by Genç (2010), was applied as pretest and posttest to control and experiment groups.

The achievement test which was developed through the quantitative dimension of the study was applied to 90 students who were determined by suitable sampling, which is one

kind of the sampling methods of random sampling. Strategy teaching on contextual problems were taught to the experimental group (n=30), no strategy teaching was applied and it is just the recognition and familiarity is provided for pasive experimental group (n= 30), contextual problems were not mentioned and no strategy teaching were made in control group (n= 30). Obtained quantitative data were analyzed by SPSS 22. One Way ANOVA for the comparison of experimental and control groups, One-Way ANOVA for Repeated Measures, Repeated Mesaures One-Way Analysis of Covariance, and One Way Covariance Analysis (ANCOVA) were used.

When the qualitative results were evaluated, it was identified that students consider contextual problems as difficult, long, containing detailed information, time-consuming and staggered questions, and they focus on the numbers rather than content and do random calculations while solving contextual problems. It was also observed that students think that they can not solve the problems in the case of a large number of problems and absence of integers. In the light of this data obtained and as a return on existing problem-solving strategies, two synthesis strategies considered as beneficial were developed.

When the study's quantitative results are evaluated; it was found that teaching problem solving strategies for solving contextual problems affects positively student achievement and retention of learned knowledge, but it does not have any impact on attitude.

KEYWORDS

Contextual Learning, Contextual Problems, Problem Solving Strategies