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TITLE: EFFECT OF USING HISTORY OF MATHEMATICS ON THE ELEMENTARY SCHOOL 4th GRADE STUDENTS' ACADEMIC SUCCESS, RETENTION AND MOTIVATION LEVEL

ABSTRACT

The aim of this research is to determine the effect of using history of mathematics in order to teach the Decimal Fractions, an elementary school fourth grade course subject, on students' academic achievement, retention and motivation level.

This study been structured in the form of quantitative and quasi-experimental design including pretest-posttest control group. In addition, this study exhibits a qualitative aspect based on views of classroom teacher partaking in experimental group regarding using the history of mathematics in math teaching.

This study has been conducted in the second semester of 2014-2015 academic year with fourth grade students reclassified as experimental and control groups in two elementary schools of different districts in the city of Aydin. In total, 52 students, 26 of which for experimental group and remaining equal half for control group were participants of the research. In the experimental group math was instructed through using history of mathematics, as for the control group, it was instructed without using history of mathematics.

Before and after the research practice AToD test (Achievement Test on Decimals) developed by Genc (2015) along with PSMMS (Primary School Mathematics Motivation Scale) developed by Ersoy and Oksuz (2015) have been implemented in both classes. In the experimental group, class teacher observed the process were interviewed through semi-structured form and the interview data were analysed descriptively. Achievement Test on Decimals has been implemented again after eight week following the research practice to determine retention level of Decimals in the experimental and control groups of research.

Data obtained were analysed using SPSS 15.0 statistical analysis software. In this study following conclusion has been reached: The Use of History of Mathematics has considerably increased the level of student success, retention level of Decimals and motivation level towards mathematics. Furthermore views of a class teacher who has observed the process related to the use of history of mathematics in math teaching are positive.

KEY WORDS: History of Mathematics, Mathematics Education, Motivation, Decimal Fractions