



A RESEARCH ON GEOMETRY PROBLEM SOLVING STRATEGIES USED BY ELEMENTARY MATHEMATICS TEACHER CANDIDATES

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Abstract

Geometry is one of the most important branches of mathematics education, because the aim of the geometry teaching is to provide students with the ability of critical thinking, problem solving and a better understanding of the other subjects in mathematics by making the students have a high level of geometric thinking skills (Şahin, O.,2008). Research of problem solving, which is located in the centre of education, in this extremely important branch of mathematics education is quite important for mathematics education in our country as in many countries. There is a lot of research on this issue in the literature. Elçin Emre(2008), has searched secondary school students' abilities of using problem solving strategies in her master's thesis and reached the conclusion that students are quite willing to use a strategy they have learned. Elçin Emre has also observed that students can use the strategies they have learned appropriately in their homework after the strategy teaching. On another research, İsrail (2003) has examined problem solving strategies used by 8th grade students in terms of level of success, gender, and socio-economic level variables and reached the conclusion that there is a significant relation between problem solving strategies and the level of success, socio-economic level and gender.

This study investigated elementary mathematics teacher candidates' problem solving strategies in geometry classes. The study was carried out with the participation of 20 students attending Buca Faculty of Education Elementary Mathematics Education program in 2012-2013 spring semester. In this study, semi-structured interview was used among qualitative research methods. In order to determine teacher candidates' problem-solving strategies, semi-structured interview form and "*the form of determining geometry problem solving strategies*" consisting of open-ended questions were developed as a means of data collection.

In the part of the research findings, there is data including problem solving strategies used by mathematics teacher candidates and the analysis of these strategies according to gender difference. According to the findings, it is determined that teacher candidates benefit from different problem solving strategies existing in the literature.

It is thought that investigation of problem solving, which has great importance in the field of mathematics as in many other areas, in geometry classes provides an important contribution to mathematics education by helping students develop their reasoning and problem solving skills, which is one of the aims of mathematics teaching, and providing these skills to be used later in life (Yılmaz, 2007).

Key Words: Geometry, problem solving, problem solving strategies.