

MATHEMATICS TEACHING AND MATHEMATICAL THINKING

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Abstract

The purpose of this study was to investigate the problem solving skills and mathematical thinking levels of 3rd grade prospective teachers attending primary school teaching program. The research was conducted with 46 3rd grade prospective class teachers studying in Samsun Ondokuz Mayıs University, in the first term of 2013-2014 academic year. The study was oriented case study which is one of the quantitative research methods. Problem solving steps of Polya (1945) which consist of four steps were lectured and problem solving strategies were introduced during 13 weeks (26 hours) in order to improve the problem solving skills of the students. In the study, as data collection tools, two problems which were formed by Posamentier ve Krulik (1998) and in order to determine whether problem solving lesson have an effect on mathematical thinking “Mathematical Thinking Scale” which developed by Ersoy (2012) were used. The data was obtained with implementation of two problems and mathematical thinking scale. In the analysis of data, the solutions of problems were examined by taking into consideration the steps of Polya’s problem solving. The findings shows that prospective class teachers` problem solving skills developed and there was increase positively in the abilities of choosing and practising appropriate strategies. The analysis of mathematical thinking scale put forward that problem solving skills of students had an effect on mathematical thinking.

Key Words: Mathematical thinking, problem solving, problem solving stages.