

The Effect of Problem Posing Instruction on 9th Grade Students' Mathematics Academic Achievement and RetentionSelim Guvercin¹, Ali Kemal Cilavdaroglu² and Ahmet Cezmi Savas³¹*Faculty of Natural Sciences, Suleyman Demirel University, Almaty, Kazakhstan*²*Faculty of Education, Zirve University, Gaziantep, Turkey**E-mail: ¹<selimguvercin60@gmail.com>, ²<kemal.cilavdaroglu@zirve.edu.tr>, ³<cezmi.savas@zirve.edu.tr>***KEYWORDS** Mathematics Instruction, Problem Posing, Student Achievement

ABSTRACT The purpose of this research is to examine the effects of problem posing intervention on 9th grade students' mathematics achievement and retention. The subject triangles were used in the research as a tool to observe the differences between experimental and control groups. Effects of problem posing instruction analyzed by specially designed tests on pre and post activities. Meanwhile, sought student responses were through individual meetings. This study has been conducted with 9th grade students at a Kazakh High School for gifted students during the second semester of 2012-2013 academic year. 60 students were divided into two groups. One of the groups was experimental and the other was control group. There was equal number of students in each group, that is, 30. The research duration was two months in the same school. Within this research, a mixed methods design is used with quantitative and qualitative components. Data from quantitative component that was pre and post test were analyzed by using SPSS computer package. Qualitative design included data through which students were compared from pre to post intervention opinions. The Mathematics Achievement Test were used in order to measure the students' mathematics academic achievement and retention as well. The reliability of the tests was measured by special techniques and the value of Cronbach's Alpha constant was calculated as 0.93 for achievement test. During the problem posing instruction with experimental group students we used the activities that were specially designed triangles problems in the light of problem posing stages. Traditional educational methods were used in the control group. In addition, some questions were prepared for the students who got extreme scores from the activities. At the end of the research, data was evaluated by using paired sample t-test and the analyses of interview with students were conducted by using the descriptive methods.