Selective Problem Solving (SPS) is a model for teaching creative problem solving. The purpose of SPS is to develop creative thinking and problem solving ability. The aim of this research was to investigate the possible differences in Selective Problem Solving Satisfaction level caused by gender and groups (gifted vs average-ability). The research was conducted with 74 seventh-grade gifted and average-ability students. The Selective Problem Solving Satisfaction Scale was administered to the participants after the eight-session instruction. As a result of the analysis of the data; students satisfaction levels did not show any significant difference according to gender and group variables. Satisfaction level of both groups was statistically significant and above the test value.

Keywords: gifted students, mathematical creativity, Selective Problem Solving Model

Purpose and Significance: Motivation may be the most essential part of creative performance (Amabile, 1983; Sternberg& Lubart, 1995; Urban, 2003). Amabile’s (2013), componential theory of creativity is a comprehensive model to produce creative work. The Theory include four components are necessary for any creative work: domain-relevant skills, creativity-relevant skills, motivation and social environment. According to this theory people are most creative when they feel motivated by the enjoyment, interest and satisfaction. Sternberg and Lubart (1995), Urban (2003) also draw attention to importance of motivation in creative process. When we think of our
students, they will reveal their creative performances in any subject when they feel satisfaction, enjoyment and interest. The basic premise of the research constitutes this perspective. Based on this, current study aimed to investigate the possible differences in Selective Problem Solving Satisfaction level caused by gender and groups (gifted vs average-ability).

**Method:** This study has two research models: A survey method and a casual- comparative method. Casual- comparative model were used to investigate the possible differences between gifted and average-ability students. For investigating the students’ satisfactions level of subdimensions of the scale we used survey method. Data were collected from 74 seventh-grade students in Eskişehir. The sample consisted of 30 gifted and 44 average-ability students. After the 8-session Selective Problem Solving (SPS) activities, SPS Satisfaction Scale was administered to the participants.

**Results:** Analyses showed that there were no significant differences between gifted and average-ability students in SPS Satisfaction Scale level according to gender and group variables. Satisfaction level of both groups were statistically significant and above the test value. It means in both ability groups feel satisfaction when solving math problem with SPS model. One Sample t-test analysis showed that mean scores of subdimension of scale are differ among groups. Gifted students have statistically significant scores in self-confidence ($t_{29}=2.077; p<.05$), creativity($t_{29}=2.050; p<.05$) and learning mathematics($t_{29}=2.099; p<.05$) subdimensions. Average-ability students have statistically significant scores self-confidence ($t_{43}=2.205; p<.05$) and learning mathematics ($t_{43}=3.158; p<.05$) subdimension of scale.

**Discussions and Conclusions:** To foster mathematical creativity at school level, teachers need to be careful to select suitable teaching way is acceptable by students (Pham& Cho, 2018). Students will show their creative work when they feel satisfaction, enjoyment and pleasure. Therefore, this
study aimed to investigate the possible differences in Selective Problem Solving Satisfaction level caused by gender and groups (gifted vs average-ability).

The study showed that there were no significant differences between gifted and average-ability students in SPS Satisfaction Scale level according to gender and group variables. Based on this result, we will say SPS model is acceptable by different ability level.

There are some limitations in this study. And the suggestions for future research that studies may be developed at different grade levels, in different subject areas and with a wider range of sample groups, in order to strengthen social validity. Besides, the effect of the model on student success can be investigated by experimental studies. In this study, students' satisfaction levels were evaluated comparatively in different variables. It is thought that a research based on the teachers’ perceptions of the SPS model will reveal important data about Selective Problem Solving Model.

References

