An Examination of Gifted Students' Perceptions of Self-Efficacy in Mathematics Literacy and Mathematical Literacy Achievements

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Abstract

The concept of literacy has become the main goal, goal and goal of educational transformation and development projects (NRC, 1989). As a result of the studies carried out, it has been seen that the concept of literacy is composed of many components and a definition of literacy concept belonging to each discipline is revealed. The concept of mathematical literacy is one of them. Mathematical literacy is necessary and necessary for everyone in the developing knowledge and science community. The mathematical literacy that is most emphasized is the aim to be achieved by the primary education mathematics curriculum developed in line with this information. With these aims, the necessity of understanding and using mathematics becomes important in daily life. The primary school mathematics program aims to train individuals who can understand what they have learned in their surroundings and in the school setting and who can create their own meanings and apply what they mean in everyday life. In this context, mathematics education has been directed towards the application where meaningful relationships between mathematics and everyday life are established (De Corte, 2004). In a sense, mathematics literacy has begun to grasp the importance of growing individuals. In today's world where mathematical literacy is emphasized, mathematical literacy training can be regarded as an even more meaningful goal for gifted individuals who perform at a higher level in mathematics than their peers. Mathematics education, which will be given to gifted individuals, one of the most valuable human resources of the countries, has an important influence in the development of the countries and in ensuring the life satisfaction of these individuals. When the self-efficacy and mathematical literacy studies carried out in the literature are examined, it is seen that the studies are usually carried out on teacher candidates and the present factors are examined in terms of various variables. In the related literature, there was no study that emphasized mathematical literacy and self-efficacy of gifted students. The purpose of studying in this context is to determine mathematical literacy self-efficacy perceptions and mathematical literacy achievements of gifted students. The research was carried out using the general screening model of descriptive research methods. The study group of the study provides data obtained from 69 students attending secondary school level of Adana Science and Art Center during 2017-2018 education years. The data of the research were obtained using the personal information form, the Mathematics Literacy Achievement Test
developed by Baypinar and Tarım (2018) and the Mathematics Literacy Achievement Test developed on the basis of mathematics literacy questions explained by PISA. Pearson Correlation Coefficient Correlation Coefficient Analysis technique and independent sample t-test were used to evaluate the data obtained from the research results. The IBM SPSS 22.0 program was used to analyze the data, and the Test Analysis Program (Version 16.11.13) developed by Ohio University was used for item analysis. According to the findings, it was determined that mental literacy self-efficacy perceptions of gifted students were high. However, mathematical literacy achievements of gifted students were found to be medium level.

**Key Words:** Gifted students, mathematical literacy, mathematics literacy self-efficacy perception, Science and Art Center.