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RESEARCH ARTICLE

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TEACHERS' PERCEPTIONS, OPINIONS AND TRAINING NEEDS ABOUT
THE GUIDANCE, DIAGNOSIS AND EDUCATION OF INDIVIDUALS
WITH SPECIAL TALENTS¹

Özel Yetenekli Bireylerin Yönlendirme, Tanılama ve Eğitimi Hakkında Öğretmenlerin Algı, Görüş
ve Eğitim İhtiyaçları

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ABSTRACT

In this study, it was aimed to determine teachers' views, perceptions and training needs regarding the identification and education of gifted and talented students. By determining the opinions of teachers, new and functional suggestions regarding the identification and education processes of gifted students were presented. 358 teachers working in Sakarya province participated in the study. Frequency analysis and descriptive statistics methods were used in the statistical analysis of the research. According to the results of the study, it was determined that teachers need training on "identifying gifted students", "choosing appropriate teaching methods for gifted students" and "determining the learning needs of gifted students". When the opinions of the teachers regarding the education of gifted students were examined, it was seen that they expressed opinions on giving more space to gifted students in education policies, enriching BILSEMs, (science and art education center) and constantly renewing themselves in this field. Under the sub-heading of teachers' perceptions of gifted students, it was determined that teachers' perceptions of the characteristics of gifted students in general were above average

Keywords: Gifted, intelligence, emotional intelligence, special education

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ÖZET

Bu araştırmada öğretmenlerin özel yetenekli öğrencilerin tanınması, eğitimleri ile ilgili görüşleri, algıları ve eğitim ihtiyaçlarının belirlenmesi amaçlanmıştır. Araştırmada öğretmenlerin görüşleri belirlenerek, özel yeteneklilerin tanınma ve eğitim süreçlerine ilişkin yeni ve fonksiyonel öneriler sunulmuştur. Araştırmaya Sakarya ilinde görev yapan 358 öğretmen katılmıştır. Araştırmanın istatistiksel analizlerinde frekans analizi ve betimsel istatistik yöntemleri kullanılmıştır. Araştırmanın sonuçlarına göre öğretmenlerin “özel yetenekli öğrencileri tespit etme”, “özel yetenekli öğrencilere uygun öğretim yöntemi seçme” ve “özel yetenekli öğrencilerin öğrenme ihtiyaçlarını belirleme” konularında eğitim ihtiyaçları olduğu belirlenmiştir. Öğretmenlerin özel yeteneklilerin eğitimine ilişkin görüşlerine bakıldığında eğitim politikalarında özel yetenekli öğrencilere daha fazla yer verilmesi, BİLSEM’lerin zenginleştirilmesi, öğretmenlerin bu alanda sürekli kendilerini yenilemeleri konusunda görüş belirttikleri görülmüştür. Öğretmenlerin özel yeteneklilere ilişkin algıları alt başlığında öğretmenlerin genel olarak özel yetenekli öğrencilerin özelliklerine ilişkin algılarının ortalamasının üstünde olduğu belirlenmiştir.

Anahtar Kelimeler: Özel yetenek, zekâ, duygusal zekâ, özel eğitim

INTRODUCTION

Intelligence has been defined in various ways in the literature. Among these, Piaget’s definition is “the development and activation of mental processes such as perception, assimilation and recall”. Gardner, on the other hand, defines intelligence more comprehensively as “the ability to create products, produce solutions, and discover problems” (as cited in Demirok, 2012). The concept of “special talent” is used by MEB (2013) instead of the concepts of “giftedness/intelligence”. Giftedness, on the other hand, is defined in the literature as “an individual’s ability to be at a higher level than his/her peers in one and/or several or all of the following areas of physical growth and development, movement development, perception- attention control, cognitive development such as analysis, synthesis, problem solving, the ability to understand and express language, social, emotional and aesthetic development, which can be observed and/or measured by experts through various observation and measurement tools” (Baykoç Dönmez, 2012).

Gifted students are emerging as a strategic driving force in the development of a country and in keeping pace with technology. The education of gifted individuals is an investment in the future and is of great importance in raising leading cadres and artists in a country. It is seen that this issue has been given importance all over the world in the historical process. (Genç, 2016) In the “Strategy and Implementation Guide for the Education of Gifted Individuals”, the strategic importance of gifted education is explained with the sentence “The high and qualified level of education of human resources helps the country to use other resources more efficiently and to make the country technologically, economically, politically and militarily strong” (MEB, 2013).

The first step in the education of gifted students is the identification process. Following the right path in identification ensures that education achieves its goal. The earlier the existing talents are recognized, the more they have the opportunity to develop their talents. Group intelligence tests, individual intelligence tests, critical thinking tests and special tests for artistic fields are generally used in diagnostics. The teacher’s opinion takes the first place in directing the student to these tests. In this

respect, teachers' ability to recognize gifted students and their equipment in this field are important (Levent, 2011).

Turkey has come a long way in the education of gifted students with the establishment of BİLSEMs. It has taken its place in education as a unified version of the Science Centers and Art Centers established separately in the world. In research studies on separate and combined education in the education of the gifted in the world, it has been concluded that the education that students receive with their peers in their own classrooms is more effective. In the current education in Turkey, there is a need to make progress in the individual education of students and education without segregation (Genç, 2016).

Definitions of Intelligence

Although intelligence has many different definitions, its dictionary meaning in the Turkish Language Association is given as "all of human thinking, reasoning, perception of objective facts, judgment and inference abilities" (<http://www.tdk.gov.tr>). In the literature, intelligence has been a concept that science has tried to define and explain in the historical process. Intelligence has been defined in many ways by many scientists. Therefore, it is not possible to talk about a single definition of intelligence. The society, cultural structure, personal experiences and disciplines in which scientists live and work have had an impact on their theories of intelligence (Sak, 2016). Binet defined intelligence in 1905 in terms of "reasoning, practical meaning, initiative and adaptability" (as cited in Hindes, Schoenberg, & Saklofske, 2011). David Wechsler, who introduced the Wechsler Intelligence Scale, defined intelligence as "the general capacity of the individual to act purposefully, think rationally, and interact effectively with his or her environment" (Wechsler, 1958).

Piaget defines intelligence as follows: "*Intelligence is an adaptation... To say that intelligence is a special case of biological adaptation is to admit that it is fundamentally an organization and that its function is to structure the universe just as the organism structures its immediate environment. Intelligence is the assimilation of all the data of experience into its own framework. There is no doubt that mental life also adapts to the environment.*" (Piaget, 1963)

Sternberg's (1997) definition of intelligence is as follows: "*The mental abilities necessary to adapt to any environmental context, the real world, as well as to shape and select this environment*".

In a declaration published in the Wall Street Journal in 1994, 52 researchers agreed on the following definition:

"It is a very general mental capacity that encompasses the functions of reasoning, planning, problem solving, abstract thinking, grasping complex ideas, learning quickly and learning from experience. Intelligence is not just an academic skill. Rather, it is a much broader and deeper capacity that enables us to comprehend and interact with the environment around us." (Gottfredson, 1997)

Another definition of intelligence published in APA (Intelligence: Knowns and Unknowns, 1996) and accepted by 11 psychologists is as follows:

“Individuals differ in their ability to understand complex ideas, adapt to the environment, learn from experience, reason in different ways and cope with challenges. However, although such individual differences are very large, they are not immutable. An individual can demonstrate different levels of intellectual performance at different times and in different domains.” (as cited in Sak, 2016)

The difference in the definitions of intelligence shows the difference in the perspectives in explaining the concept of intelligence. Researchers working in this field have put forward various theories of intelligence arising from these various perspectives. Theories of intelligence facilitate the explanation of the concept of intelligence by offering various perspectives.

What is Special Talent / Giftedness ?

The concepts of special talent and giftedness are sometimes used interchangeably in the literature. In the past, the concept of giftedness was used more frequently, but today, especially MEB sources use the concept of “giftedness”. The term “gifted” has various definitions.

In MEB (2017), giftedness is defined as *“children who are identified by field and subject matter experts as performing at a higher level than their peers in intelligence, creativity, art, leadership capacity or academic fields. Gifted or gifted children are children who need special education and activities to develop their talents”*.

Terman (1925), who conducted the first and most important studies in this field, explained giftedness as *“the upper limit of the 2% who have achieved the highest scores in standard intelligence tests.”* (as cited in Sürmeli, 2015) This definition, based on intelligence as a single criterion by Terman, has evolved into multifaceted definitions over time.

When other definitions in the literature are examined, giftedness is defined as individuals who have remarkable superior achievements and whose skills that enable them to show high-level creativity develop early (Şenol, 2011).

The most widely accepted definitions and explanations in this field in the literature are made by Renzulli. According to Renzulli (1990), giftedness or giftedness emerges through the interaction of three basic elements.

1. Above average ability (talent).
2. Ability to generate creative solutions (creativity).
3. Being highly motivated in their work (motivation).

Diagnosis and Assessment of Gifted Students and Educational Diagnosis and Evaluation

The identification of gifted children as early as possible and the orientation of gifted children according to their needs are very important in terms of educational strategies. Identification of gifted students is important in the following four aspects:

- Early identification and guidance accelerates and regulates the development and learning of these children.
- In this period when it is important to follow and produce technology, gifted children are seen as economic resources that can make significant contributions to science, production, art and technology.
- When gifted children cannot find the opportunity and environment they are looking for, when they cannot realize themselves, they may have a destructive, maladaptive position that harms themselves and their environment.
- By definition, the concept of equal opportunity includes access to educational environments suitable for development and abilities. Accordingly, the fact that children with special abilities cannot access the necessary educational environment is contrary to the understanding of contemporary education (MEB, 2017).

According to Dönmez (2012), the identification and guidance of gifted children in the preschool period is of great importance. In this period, parents should observe their children's behaviors well, and when they detect significant differences between them and their peers, evaluating this well can give the right results. For this, parents should of course be familiar with the developmental characteristics of infancy and early childhood. However, diagnosis in early childhood is often very difficult and infrequent.

In the preschool period, more qualitative assessments are conducted based on teacher and parent observations. However, standardized quantitative assessments required for diagnosis cannot be conducted in this period. The reason for this is that standardized measurement tools have been found to give more reliable results on school-age and older children. Of course, standardized tests should not be used alone to identify gifted children. In this respect, it is seen that there are various methods used for diagnosis in the literature (Şenol, 2011).

Teacher evaluations, parents' opinions, developmental assessments, checklists, peer observations and opinions, standardized tests and performance and behavior scales are among the methods used in the diagnostic phase (Baykoç Dönmez, 2012).

Measuring Tools

The most commonly used tools in the diagnostic process are standardized tests. They can be analyzed under two headings: group tests and individual tests.

Group intelligence tests are mostly used for screening purposes. They can be applied to more than one person at the same time. However, it does not provide enough information for a detailed evaluation. There is a possibility that gifted and talented children with motivational and emotional problems may be overlooked in screening with group tests. Therefore, individual tests should be supported by other diagnostic tools such as teacher opinions (MEB, 2017).

Individual intelligence tests classically used to make a more precise diagnosis of the gifted child's abilities. They are expensive and require time and expertise to administer. They are also considered to have cultural limitations. (Baykoç Dönmez, 2012) Since they are administered individually, it is possible to observe the student in more detail and collect more detailed information about his/her skills. In this respect, it can be said that it provides more reliable results than group intelligence tests. Although it is a tool that must be used in diagnosis, supporting it with other tools makes the diagnosis stronger (Şenol, 2011).

Scales belonging to these areas are used to determine special talent areas (Şenol, 2011). Creativity tests, critical thinking tests, tests suitable for painting and music can be counted in this category (MEB, 2017). Torrance Creative Thinking Test and Reading Maturity Test are examples of these tests (Şenol, 2011).

Diagnostic Process in Turkey

In Turkey, cooperation between Guidance and Research Centers and BİLSEM is at the forefront in the process of identification of gifted students. In the pre-school period, identification can be made through appropriate measurement tools by referring to Guidance and Research Centers (Bilgiç, et al.).

The first stage in the province-wide process is the sharing of the necessary announcements by the Ministry of National Education and the determination of class levels and related procedures. Students are assessed in the areas of general intellectual ability, visual arts and music talent. In the second stage, classroom teachers fill in the observation forms prepared by the Ministry of National Education and nominate students who they think have different development than their peers. The observation forms are then evaluated by the BİLSEM commission. Candidate students are then subjected to group screening tests (Bilgiç, et al.) Group screening tests are conducted on tablet computers. After the group screening tests, students who score the threshold score determined for each talent area are subjected to individual evaluation. Individual assessment is conducted separately for each talent area. Students who pass the threshold score determined by the ministry from the individual evaluation are eligible to enroll in Science and Art Centers (Science and Art Centers Student Identification and Placement Guide, 2019).

In BILSEM, students receive education in parallel with their formal education. In addition, students diagnosed as gifted can benefit from support education in support education rooms as mainstreaming in their schools (Bilgiç, et al.).

Educational Practices for Gifted Students

There are various opinions on how gifted students should be educated. While some experts state that a separate education model should be adopted; according to some experts, a co-education model should be adopted. (Avcı Doğan & Ateşgöz, 2020) In the separate education model, gifted children receive an education in specially designed educational environments, with specially trained teachers, where they are subject to a special education program. Homogeneous groups are provided. In the co-education model, gifted students are supported and educated without being separated from their peer groups (MEB, 2017).

Separate Education

It is carried out by bringing together gifted children according to certain levels and educating them in a special institution subject to an education program specific to gifted children. Usually, special institutions for the gifted provide this education. In the Ottoman Empire, the Enderun School was one of the first examples of this. Currently, there are special institutions for gifted students in Turkey (MEB, 2017).

Anatolian Fine Arts High Schools and Science High Schools are also included in the scope of separate education, while the Turkish Education Foundation Inanç Türkeş Private High School provides this service as a private institution (MEB, 2017).

Turkish Education Foundation Inanç Türkeş Private High School: Provides education to students at the secondary education level. It selects students through in-house diagnostic studies. The institution first ranks the applicants according to their LGS scores; students with scores above the determined base score proceed to the next stage of the identification process. In the second stage, students take a test. For 2021, the CAS (Cognitive Assessment System) test is applied. After this test, students are interviewed by teachers, subjected to a language test and then a total score is obtained by taking the information required for the scholarship. The student then receives a final enrollment (Turkish Education Foundation Inanç Türkeş Private High School, no date).

The institution implements the curriculum of Anatolian High Schools providing education in a foreign language and includes activities prepared for gifted students in its curriculum (Baykoç Dönmez, 2012).

Education Together

After the identification process, the potential and educational needs of the gifted student are determined and an appropriate program is prepared and the student continues to receive education in the same group with his/her peers without being separated. This practice can be carried out in various ways; acceleration, enrichment and grouping.

Acceleration

Gifted students have a more advanced developmental level and learning speed compared to their peers. Acceleration practice refers to moving the student further in the education program based on his/her individual learning speed. In acceleration, the cognitive, social and affective characteristics of the student are important, not his/her age (Avcı Doğan & Ateşgöz, 2020).

Acceleration prevents students from getting bored in teaching due to their learning speed. Thus, children become more willing to participate in education. Acceleration can be implemented in various ways: starting class (school) early, skipping classes, skipping courses, taking exams without taking the course, and completing the program before the deadline (Baykoç Dönmez, 2012; MEB, 2017).

Enrichment

Enrichment is the situation in which a gifted student is included in a program that is deepened and enriched in parallel while continuing classroom education with his/her peers. Enrichment enables gifted children to be together with their peers, to produce projects with them, to participate in activities and to be a model for them. At the same time, it enables the child to progress in his/her own talent areas through a separate program (Avcı Doğan & Ateşgöz, 2020). There are process and content goals in enrichment practices. Process goals are critical thinking, creativity, scientific thinking and problem solving. Content objectives are activities and lessons (Baykoç Dönmez, 2012).

Grouping

The Grouping application is the educational grouping of gifted students with similar abilities in or out of the classroom for long or short periods of time (Baykoç Dönmez, 2012). It has been determined that grouping practice has very positive effects on the production, success and self-perception of gifted students. There are various models in grouping practice; full-time homogeneous grouping, full-time heterogeneous grouping, part-time homogeneous grouping, part-time heterogeneous grouping.

METHOD

Problem Statement

What are the perceptions, opinions and training needs of primary and preschool teachers regarding the recognition, identification and education of gifted students?

Limitations

1. The research has conducted in Sakarya province. Teachers from the central districts of Sakarya constituted the sample.
2. Due to the pandemic period, data collection has carried out online.

Research Method

The current study is a descriptive model research. An attempt was made to determine a situation by reaching the current views of teachers regarding the identification and education of gifted students.

The research was conducted as a cross-sectional study. Teachers working in Sakarya province were taken as a cross-section. It can be described as a provincial case study. The results of the analysis made with the data obtained were generalized to the sample.

Descriptive statistical analyses were made using the SPSS program with the data obtained through questionnaire applications.

Population and Sample

In the study, primary school classroom teachers working in Sakarya province were determined as the study population. The sample of the study consists of 358 participants determined by convenience sampling method from primary school classroom teachers working in Adapazarı, Arifiye, Erenler, Sapanca and Serdivan districts of Sakarya province.

Data Collection Tools

“Personal Information Form” and “Scale for Determining Perceptions, Opinions and Educational Needs of Individuals with Special Abilities” were used as data collection tools. The scales were administered through the online platform.

Personal Information Form

A personal information form consisting of a total of 7 items regarding demographic information, professional information and teachers’ methods of obtaining information on special talent was prepared. The form was used to obtain this information from the participants before the survey.

Scale for Determining Perceptions, Opinions and Educational Needs of Individuals with Special Talents

The scale was developed by Demirok at the Near East University in 2012. Permission for the use of the scale is presented in the appendix. The scale consists of 3 separate subscales. Each subscale was prepared to measure a different value.

The “Determination of Teachers’ Perceptions of Gifted Students’ Characteristics” scale aims to determine teachers’ knowledge about the characteristics of gifted students, how they perceive gifted children, and what they observe as distinguishing characteristics. The validity and reliability studies of the scale were completed with 175 participants. According to the factor analysis results, the scale consists of 5 factors. These factors were named as “willingness to learn” (9 items), “expressive characteristics” (8 items), “personality characteristics” (6 items), “learning characteristics” (6 items), and “mental characteristics” (4 items). Cronbach’s alpha coefficient of the scale was calculated as .95 for the whole scale and .90 for the two half tests. The alpha coefficient for the first factor was .92 and the two half-test reliability coefficient was .89, the alpha coefficient for the second factor was .89 and the two half-test reliability coefficient was .87, the alpha coefficient for the third factor was .90 and the two half-test reliability coefficient was .87, the alpha coefficient for the fourth factor was .86 and the two half-test reliability coefficient was .82, and the alpha coefficient for the fifth factor was .68 and the two half-test reliability coefficient was .67. (Demirok, 2012)

In the “Determining Teacher Needs for Gifted Students” questionnaire, the training needs of teachers in the stages of identification of gifted students, their education in the classroom and support education will be tried to be determined. The questionnaire prepared with 30 items was finalized as 26 items with 4 items removed after expert opinions (Demirok, 2012).

In the “Determining Teachers’ Opinions on the Education of the Gifted” scale, it will be tried to determine the opinions of teachers about the education processes available for gifted students and their suggestions, if any, on this issue. The scale has 31 items. According to factor analysis, it consists of 6 factors. According to the results of the reliability analysis of the scale, the Cronbach Alpha coefficient was found to be .89 and the two half test reliability coefficient was found to be .92. (Demirok, 2012)

FINDINGS

In this section of the study, the demographic information of the study group within the scope of the research as well as frequency tables and column graphs regarding their responses to the measurement tool applied are presented.

Distribution of Participants

Table 1. Distribution of the Study Group

		Count	%
Gender	Female	243	67,9
	Male	115	32,1
	Total	358	100,0
Age	Between 22-30	38	10,6
	Between 31-40	122	34,1
	Between 41-50	130	36,3
	51 years and over	68	19,0
	Total	358	100,0
Professional Seniority	1-5 years	34	9,5
	6-10 years	35	9,8
	11-15 years	71	19,8
	16-20 years	68	19,0
	20 years and over	150	41,9
	Total	358	100,0

When the distribution of the study group according to gender was analyzed, the proportion of female teachers was 67.9% (n:243) and the proportion of male teachers was 32.1% (n:115).

When the distribution of the study group according to the age variable is analyzed, the proportion of those aged between 22-30 years is 10.6% (n:38); the proportion of those aged between 31-40 years is 34.1% (n:122); the proportion of those aged between 41 and 50 years is 36.3% (n:130); and the proportion of those aged 51 years and over is 19.0% (n:38).

When the distribution of the study group according to the professional seniority variable is examined, the proportion of those with 1-5 years of professional experience is 9.5% (n:34); the proportion of those with 6-10 years of professional experience is 9.8% (n:35); the proportion of those with 11-15 years of professional experience is 19.8% (n:71); the proportion of those with 16-20 years of professional experience is 19.0% (n:68); and the proportion of those with 20 years or more is 41.9% (n:150).

Table 2 . Distribution of the Study Group According to the Variable of Receiving or Not Receiving Education on Giftedness

Receiving or Not Receiving Training	Count	%
Yes	85	23,8
No	273	76,2
Total	358	100,0

When the distribution of the study group according to whether or not they received training on giftedness, the rate of those who said 'yes' was 23.8% (n:85); the rate of those who said 'no' was 76.2% (n:273).

Table 3 . Distribution of the Study Group According to Having a Gifted Student in the Classroom

How Many Gifted Students Are There?	Count	%
None	165	46,1
1	61	17,0
2	54	15,1
3	27	7,5
4 and over	15	4,2
I'm not aware of it	36	10,1
Total	358	100,0

Regarding the "Awareness of Having a Gifted Student in the Classroom" of the study group, 46.1% (n:165) said 'none'; 17.0% (n:61) said '1'; 15.1% (n:54) said '2'; 7.5% (n:27) said '3'; 4.2% (n:15) said '4 or more'; and 10.1% (n:36) said 'not aware'.

Table 4. Distribution of the Study Group According to Their Answers to the Question "Where Do You Access Resources on Giftedness?"

Where Do You Access Resources on Gifted and Talented People?	Count	%
From The Internet	192	53,6
From Books	62	17,3
From Experts	104	29,1
Total	358	100,0

In response to the question "Where do you access resources on giftedness?", 53.6% (n:192) of the study group said 'from the internet'; 17.3% (n:62) said 'from books'; and 29.1% (n:104) said 'from experts'.

Table 5. Skewness and Kurtosis Values of the Scale for Determining Sample Group Teachers' Perceptions, Opinions and Educational Needs Regarding Individuals with Special Abilities (Normality Test)

The Scale	n	\bar{X}	Ss	Skewness	Kurtosis
Teacher Needs for the Gifted and Talented	358	2,4423	,52088	-,707	-,288
Perception of the Gifted and Talented	358	3,8902	,47197	-,170	,130
Opinion on the Gifted and Talented	355	4,0265	,41042	-,308	,486

Note: The kurtosis and skewness coefficients given in the table are the values obtained by dividing by their standard errors.

When we look at the values shown in the table, the skewness and kurtosis coefficients of the Scale for Determining Perceptions, Opinions and Educational Needs of Individuals with Special Talents are between -1.50 and +1.50 at the 5% significance level. From this point of view, it can be accepted that all the preliminary measurements obtained are normally distributed.

Table 6 . Determination of Teachers' Perceptions of the Characteristics of the Study Group's Gifted Students at the Item Level

	N	Min. Score	Max. Score	Average	SS
They are very sensitive both to themselves and to what is happening around them.	358	1,0	5,0	3,838	,9966
They are patient	358	1,0	5,0	2,779	1,0500
They want their own rules to prevail.	358	1,0	5,0	3,785	,8241
They like to collect stones and insects.	358	1,0	5,0	3,637	,8110
They try to do everything perfectly.	358	1,0	5,0	3,520	1,0336
They are very curious.	358	1,0	5,0	4,285	,7759
They are very sociable.	358	1,0	5,0	3,511	1,0062
They want their different ideas and dreams to be respected.	358	1,0	5,0	4,123	,7570
Their reasoning skills are highly developed.	358	1,0	5,0	4,187	,8104
They give details in their ideas.	358	1,0	5,0	3,980	,8416
They are very enthusiastic about learning activities such as reading and writing.	358	1,0	5,0	3,707	,9675
Their physical development is advanced compared to their peers.	358	1,0	5,0	2,955	,9002
They ask many questions.	358	1,0	5,0	4,196	,7856
They like to read books 1-2 years above their grade level.	358	1,0	5,0	3,936	,7624
They like competition.	358	1,0	5,0	3,707	,9559
They have a developed sense of humor.	358	1,0	5,0	3,830	,8960
They are productive, capable of presenting clear detailed ideas.	358	1,0	5,0	4,070	,7242
They learn quickly and remember easily.	358	1,0	5,0	4,207	,7609
Their physical energy levels are high.	358	1,0	5,0	3,721	,9199
They have a strong enough imagination to create imaginary friends.	358	1,0	5,0	3,712	,8491

They are very sensitive, so much so that their feelings are easily hurt.	358	2,0	5,0	3,698	,8155
They don't like to be under the orders of others.	358	1,0	5,0	3,961	,7769
They take place as leaders in the group.	358	1,0	5,0	3,827	,8522
They choose as friends those who are 2-3 years older than them.	358	1,0	5,0	3,648	,8495
In areas such as music, painting, dance, drama they succeed.	358	1,0	5,0	3,626	,8332
They do not need to work much.	358	1,0	5,0	3,640	,9205
They can retain and remember what they hear for a long time.	358	2,0	5,0	4,159	,6170
They can retain and remember what they read for a long time.	358	1,0	5,0	4,151	,7058
They have their own original interests.	358	2,0	5,0	4,218	,6195
They are capable of questioning existing rules.	358	1,0	5,0	4,148	,7202
They are interested in abstract subjects such as dinosaurs, space, numbers.	358	1,0	5,0	4,134	,7053
Their mental energy levels are high.	358	2,0	5,0	4,190	,6331
They like to engage in mental activities such as puzzles and mazes.	358	2,0	5,0	4,145	,6317
They have a high aptitude for academic achievement.	358	1,0	5,0	3,994	,7956
General	358	2,5	5,0	3,89	,4719

When the values obtained are examined, it is seen that the teachers who constitute the study group have the highest perception of gifted students' characteristics in the subjects of 'They are very curious' ($x_{av}=4,285$), 'They have original interests of their own' ($x_{av}=4,218$), 'They learn quickly and remember easily' ($x_{av}=4,207$). Teachers' perceptions of the least gifted students are "They are patient" ($x_{av}=2,779$), "Their physical development is advanced compared to their peers" ($x_{av}=2,955$), "They are very sociable" ($x_{av}=3,511$).

Table 7. Determination of Teacher Perceptions of the Study Group on the Characteristics of Gifted Students at the Sub-Dimension Level

	N	Min. Score	Max. Score	Average	SS
Willingness to Learn	358	1,56	5,00	3,7405	,54075
Features of Expression	358	2,33	5,00	3,8430	,55405
Personality Traits	358	2,00	5,00	3,7612	,57936
Learning Characteristics	358	2,17	5,00	3,9902	,53217
Mental Features	358	2,25	5,00	4,1159	,58204
General Teacher Perception	358	2,50	5,00	3,8902	,47197

When the values obtained are examined, the “willingness to learn” sub-dimension of the teachers constituting the study group was found to be at the level of ‘agree’ ($x=3,74$); the “expressive characteristics” sub-dimension was found to be ‘agree’ ($x=3,84$); the “personality characteristics” sub-dimension was found to be ‘agree’ ($x=3,76$); the “learning characteristics” sub-dimension was found to be ‘agree’ ($x=3,99$); the “mental characteristics” sub-dimension was found to be ‘agree’ ($x=4,11$); and the “general teacher perception” was found to be ‘agree’ ($x=3,89$).

Table 8 . Evaluation of the Perceptions of the Sample Group Regarding the Characteristics of Gifted Students in Terms of Gender Variables

Dimensions	Gender	N	\bar{X}	SS	t	p
Gifted Student Perception Score	Female	243	3,7869	,53765	2,375	,018
	Male	115	3,6425	,53647		

In the values in the table, N numbers, arithmetic averages and standard deviations of the scores of the sample group within the scope of the research are given according to the gender variable, and the difference between the scores of “Determining Teacher Perceptions of the Characteristics of Students with Special Talents” was examined with the Independent Sample t Test depending on the gender variable.

Based on the data obtained from the table, according to the gender variable, the arithmetic mean of the “Scale for Determining Teachers’ Perceptions of the Characteristics of Gifted Students” of the female sample group is 3.93; the arithmetic mean of the “Scale for Determining Teachers’ Perceptions of the Characteristics of Gifted Students” of the male sample group is 3.78. A significant difference was found between the groups ($t(356) = 2,889$; $p = .004$; $p < 0.05$).

Table 9. Evaluation of the Perceptions of the Sample Group Regarding the Characteristics of Gifted Students in Terms of Professional Experience Variable

Dimensions			Professional Experience	N	\bar{X}	Sd	f	p	Significant Difference
Gifted Student Perception Score		Perception	1-5 years	34	3,8598	4 353	,734	.569	-
			6-10 years	35	3,8314				
			11-15 years	71	3,8308				
			16-20 years	68	3,9334				
			20 years and over	150	3,9192				

In the table, the results of the analysis of variance of the scores of the gifted perception of the sample group based on the “professional experience” variable are presented. According to the data analysis, the levels of perception of gifted students of the sample group do not differ significantly according to the professional experience variable ($f_{(0,05;4-353)}; ,734, p>0.05$).

Table 10. Evaluation of the Sample Group’s Perceptions of the Characteristics of Gifted Students in Terms of Participation in Education on Gifted Students

Dimensions	Gender	N	\bar{X}	SS	t	p
Gifted Student Perception Score	Yes	84	4,0229	,43411	2,967	,003
	No	273	3,8499	,47716		

In the values in the table, N numbers, arithmetic averages and standard deviations of the scores of the sample group within the scope of the research according to the gender variable are given and the difference between the scores of “Determining Teachers’ Perceptions of the Characteristics of Gifted Students” was examined with the Independent Sample t Test depending on whether they participated in the training on giftedness or not.

Based on the data obtained from the table, according to the variable of whether they participated in the training on giftedness, the arithmetic mean of the “Scale for Determining Teachers’ Perceptions of the Characteristics of Gifted Students” of the sample group who said “Yes, I participated” was 4,02; the arithmetic mean of the “Scale for Determining Teachers’ Perceptions of the Characteristics of Gifted Students” of the sample group who said “No, I did not participate” was 3,84. A significant difference was found between the groups ($t(356) = 2,967; p = .003; p < 0.05$).

Table 11. Evaluation of the Sample Group’s Perceptions of the Characteristics of Gifted Students in Terms of the Number of Gifted Students in the Classroom

Dimensions	Number of Gifted Students	N	\bar{X}	Sd	f	p	Significant Difference
Gifted Student Perception Score	1	165	3,8120	5 352	4,451	.001	1-2; 1-3; 1-4; 1-6; 3-6; 4-5; 4-6
	2	61	3,9604				
	3	54	4,0111				
	4	27	4,1605				
	5	15	3,8641				
	6	36	3,7562				

The table shows the results of the analysis of variance of the sample group’s gifted student perception scores based on the variable “Number of Gifted Students in the Classroom”. According to the data analysis, the “Perception of Gifted Students” levels of the sample group differ significantly according to the variable “Number of Gifted Students in Class” ($f_{(0,05;5-352)}$: 4,451, $p < 0.05$).

Table 12. Evaluation of the Sample Group’s Perceptions of the Characteristics of Gifted Students in Terms of the Variable “Where Do You Access Resources Related to Gifted Students?”

Dimensions	How to access	N	\bar{X}	Sd	f	p	Significant Difference
Gifted Student Perception Score	Internet	192	3,8655	2 355	1,785	.169	-----
	Books	62	3,8448				
	Experts	104	3,9627				

The table shows that the sample in the sample group Analysis of variance results of the Gifted Perception Scores based on the variable “Where do you access information about gifted students” are presented. According to the data analysis, the levels of Perception of Gifted Students of the sample group do not differ significantly according to the variable ‘Where do you access information about gifted students’ ($f_{(0,05;2-355)}$: 1,785, $p > 0.05$).

Table 13. Determination of the Study Group's Teachers' Opinions on the Education of the Gifted

	N	Min. Score	Max. Score	Average	SS
Education programs can meet the needs of gifted learners.	358	1,0	5,0	2,765	1,0615
There is no harm in educating gifted children in normal classroom settings.	358	1,0	5,0	2,793	1,0299
Special education programs should be prepared to develop the abilities of the gifted.	355	2,0	5,0	4,346	,6518
A safe, peaceful and warm family environment is essential for the development of giftedness.	358	1,0	5,0	4,179	,7458
Classroom teachers should prepare additional learning design for gifted and talented students.	358	1,0	5,0	3,947	,9136
Assignments that require problem solving techniques appropriate to the speed of the gifted should be given.	358	1,0	5,0	4,142	,7252
Teachers should use more methods such as experiments, observations and projects when teaching gifted children.	358	1,0	5,0	4,165	,7281
There is a need for separate/differentiated programs for the gifted in our education system.	358	1,0	5,0	4,232	,7017
Special classes should be opened for the gifted and talented.	358	1,0	5,0	4,101	,9112
There should be a course on giftedness in teacher training faculties.	358	1,0	5,0	4,383	,7151
If necessary, specially equipped schools should be opened for the gifted.	358	1,0	5,0	4,288	,8391
Gifted students should not be given long repetitive assignments on the same topic.	358	1,0	5,0	4,145	,8541
They should be given priority in answering their classmates, not them, and they should not be discouraged.	358	1,0	5,0	3,268	1,0455
Students who are recognized as gifted should not be assigned routine tasks.	358	1,0	5,0	3,631	1,0005
Creative, unconventional ideas of gifted people that are impractical or unlikely to be implemented should be listened to.	358	1,0	5,0	4,182	,6803

They should not be asked to help their friends learn subjects for part of the school day.	358	1,0	5,0	3,327	,9827
Teachers should not compare the achievement of the gifted student with the achievement level of his/her classmates, but with his/her own learning power and speed.	358	1,0	5,0	3,723	1,0554
Children should be given the opportunity to develop the creative side of their intelligence by asking more difficult questions and asking them to develop new ideas.	358	1,0	5,0	4,045	,8423
Teachers should constantly renew themselves.	358	1,0	5,0	4,397	,6604
Neglecting subjects such as art, music and physical education for academic subjects should be avoided.	358	1,0	5,0	4,209	,8456
Students should be guided to collaborate with experts in choosing the most appropriate pathway for further learning.	358	1,0	5,0	4,341	,6534
The program prepared by the Ministry of National Education should include content for the gifted.	358	1,0	5,0	4,341	,6990
School supervisors should also be asked for their views on giftedness.	358	1,0	5,0	4,168	,7521
Classrooms for the gifted should be opened within the existing system.	358	1,0	5,0	4,095	,8448
There are institutions and associations in our country where we can direct gifted children.	358	1,0	5,0	3,254	,9928
Teachers should establish a dialog with the families of gifted children.	358	1,0	5,0	4,335	,6773
School administrations should establish a dialog with the families of gifted students.	358	1,0	5,0	4,251	,6969
Courses should be designed for gifted children.	358	1,0	5,0	4,268	,7452
Teachers should also inform the school administration about students who are considered gifted.	358	1,0	5,0	4,260	,7463
Science and Art Centers within the ministry for the gifted should be enriched and developed.	358	1,0	5,0	4,433	,6608
The education policy of the Republic of Turkey should also include the gifted and talented.	358	1,0	5,0	4,441	,6268
General	355	2,84	5,00	4,0265	,41042

When the values obtained are examined, the highest averages in the opinions of the teachers who constitute the study group on gifted students are seen in the subjects of 'Special talented students should

be included in the education policy of the Republic of Turkey' (xav =4,441); 'Science and Art Centers within the ministry for gifted students should be enriched and developed' (xav =4,433); 'Teachers should constantly renew themselves' (xav =4,397). The least average of the teachers' views on gifted students were "Education programs can meet the needs of gifted students" (xav =2,765), "There is no harm in educating gifted students in normal classroom environments" (xav =2,793), "There are institutions and associations in our country where we can direct gifted children" (xav =3,254).

DISCUSSION AND CONCLUSION

When the research findings were evaluated, the three topics that teachers needed the most training were "identifying gifted students", "choosing appropriate teaching methods for gifted students" and "determining the learning needs of gifted students". These results are in line with the results of Demirok (2012). In his 2012 study, Demirok revealed that teachers have a significant need for training on giftedness. In 2019, Levent and Kansu Çelik conducted a research study with BILSEM teachers and revealed the existence of teachers' training needs regarding the identification process. The need for training for teachers in the field of "identifying gifted students", which is one of the results of our research, confirms the results of previous studies. Similarly, in a study conducted by Mindivanlı Akdoğan, Koçak, and Subaşı (2017) with preschool teachers, it was revealed that teachers needed more information about diagnostic scales in order to identify gifted children in early childhood.

Considering the training needs of teachers for gifted students, it is recommended that in-service training, seminars or informative meetings be organized for teachers at pre-school, primary and secondary education levels regarding gifted education. In order to determine the learning methods of gifted students and to provide education with these methods, it is recommended to provide workshops based on appropriate teaching methods by preparing environments where gifted students can receive education separately from their classes. These findings support the findings in the research of Bedur, Bilgiç and Taşlıdere (2015). In their research, Bedur, Bilgiç and Taşlıdere (2015) determined that teachers needed educational support the most, after material support, in terms of both content preparation and training in the training given to specially talented students in support training rooms. The survey answers consisting of open-ended questions in the study show that teachers have difficulty in accessing previously prepared resources, especially in the preparation of content for support education. It needs training that can enrich the content in this field.

According to the findings of the study, teachers need less training on 'giving appropriate projects for gifted individuals' compared to other topics. In this direction, it is recommended to increase the number of project studies on the specific interests of gifted students in schools and to organize trainings to increase the equipment of coordinator teachers about gifted students to carry out these projects.

In the sub-heading "teachers' perceptions of gifted students" measured in the study, it was determined that teachers' perceptions of the characteristics of gifted students were generally above aver-

age. Among the characteristics of the students, it was determined that the area in which they were least equipped was “personal characteristics of the students”. This finding coincides with the findings of Sürmeli (2015). In the 2015 study conducted by Sürmeli with classroom teachers, it was found that teachers’ awareness of the academic characteristics of students with special abilities was high, but low in terms of personal characteristics.

In the findings of the research, it was concluded that there was a significant difference between the teachers who participated in the training on giftedness and the teachers who did not participate in the training in terms of their perceptions about giftedness. Based on this, it is recommended that comprehensive training studies on the characteristics of gifted children should be carried out especially for teachers at the grade levels where BILSEM referrals are made in order for classroom teachers to recognize students with special abilities and make correct guidance. In addition, it is recommended to plan studies to increase the level of knowledge in this field at pre-school and secondary education level.

Another characteristic measured in the study, “teachers’ views on the education of gifted students”, showed that teachers expressed opinions on giving more space to gifted students in education policies, enriching BILSEMs, and constantly renewing themselves in this field. This finding supports Nar’s (2017) finding that support education rooms are inadequate in terms of equipment and training and that teachers need in-service training; Pemik and Levent’s (2019) finding that there is no specific curriculum in support education rooms; Cengizhan’s (2019) finding that teachers working in support education rooms have difficulties in preparing content. In the research study of Afat (2017) as an example of Istanbul province, support training rooms were examined and as a result of this examination, 124 (11%) of the teachers working in the support training rooms received in-service training on the subject, and 973 (89%) It was determined that they did not receive any in-service training on the subject. This analysis also coincides with one of the findings of our research, “the training needs of teachers”. Considering this training need:

- In terms of determining the learning methods of gifted students, it is recommended to provide workshops based on appropriate teaching methods by preparing environments where gifted students can receive education separately from their classes, taking into account the training needs of teachers.
- It is recommended to increase the number of projects in schools that focus on the specific interests of gifted students, and to organize trainings for coordinator teachers to increase their knowledge about gifted students.
- It is recommended that studies be carried out to enrich BILSEM training programs so that students attending BILSEM can benefit more in line with their interests and talents.
- Students who do not attend BILSEM but are identified as gifted should be provided with more

support education in schools. In this context, it is recommended to improve ZEP implementations and to provide trainings that will increase the equipment of implementing teachers.

- Schools with a high number of students identified as gifted should be supported to open workshops and provide these students with environments where they can receive education and carry out projects outside their classrooms.
- The training of teachers who work with gifted students is as important as the equipment required to carry out this training. It is also necessary to provide physical equipment that will facilitate and support the education, projects or experiential work that students will receive in separate classrooms or laboratories (math, science, nature, etc.). Teachers' views revealed their training needs, but even in cases where the educational equipment is complete, physical conditions must also be provided for teachers to enable gifted students to progress further. Robotic coding workshops, mathematics physics chemistry laboratories, environments where they can use applications that can provide their development in specific fields (mathematics, physics, chemistry, music, etc.) on computers or tablets can be counted among the physical equipment.
- Based on teachers' opinions on education programs, education practices for the gifted that can be carried out in our country can be listed as follows:
- In schools, the physical infrastructure required for gifted students to benefit from support education rooms should be created and supported in accordance with ministry policy. The Enriched Education Program (ZEP), which should be implemented in support education, should be prepared and implemented in accordance with specific areas of talent by including practical activities. Experiments, research, functional use of technology, coding skills should be included in these programs.
- Institutions that provide education in the support education dimension, such as BILSEM, should be separated from normal education processes and should provide full-time education. Students selected for BILSEM can be educated in these institutions with the versions of the ZEPs implemented in the support education rooms transformed into an expanded enriched curriculum. Providing full-time enriched education will enable gifted children to participate in education much faster and more productively.
- Separate educational institutions should be opened for individuals with an IQ score of 150 and above, and these children should be included in educational processes with special education and techniques. Considering that these separate educational schools, just like the sports high schools and fine arts high schools that currently provide education, are exemplary educational institutions that accept students with talent; the opening of educational institutions in the fields of science and mathematics, where students selected with talent and intelligence scores can do special studies in these fields, will fill an important gap.

SUGGESTIONS

In the light of the findings of the study, suggestions for future studies in this field can be listed as follows:

- One of the findings of the study is that improvements should be made in the system regarding the education of the gifted. It may be recommended to conduct a qualitative study in order to obtain teachers' views on this issue in a more comprehensive manner.
- It is recommended that a qualitative study be conducted to determine all teachers' views on giftedness and gifted education and teachers' perceptions of gifted children.
- The level of self-efficacy regarding gifted education, the level of perception towards gifted children and the level of knowledge regarding gifted education can be replicated with a qualitative study.
- Qualitative or quantitative studies should be conducted to determine preschool teachers' attitudes towards acceleration, ability grouping and enrichment strategies

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