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Ideal Science Teacher From Perspective of Gifted Students: Phenomenological Study

Münewver SUBAŞI ÇOLAK^{a*}

a* Hatay Mustafa Kemal University, (0000-0001-6777-6995) *munevversubasi@gmail.com

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ABSTRACT

The aim of this study was to determine the characteristics of an ideal science teacher, from the perspective of gifted secondary school students. For this purpose, phenomenological method from the qualitative research methods was used in the study. Thirty-five gifted secondary school students studying at a science and art center in the Mediterranean region of Turkey have been selected as the participants of the study. In the study conducted on a voluntary basis, the data was collected using a semi-structured interview form. The data obtained from the study was analyzed using content analysis, which is one of the qualitative data analysis methods. Frequency values were used to analyze the data and direct citations were included. As a result of the analysis of the data, gifted students emphasized in general, the personal and educational dimensions of an ideal science teacher. While an ideal science teacher is expected to be fair, humorous and entertaining on a personal level, it was emphasized that he/she should be wise and creative on a professional level. In the educational dimension, the science teachers who address the students by their names and treat them sincerely and in the learning and teaching dimension, the type of teachers who are fun, experimental, and the ones that can create a more enjoyable environment in the classroom emerge as the ideal science teachers.

Keywords: Gifted, ideal teacher, science.

Özel Yetenekli Bireylerin Bakış Açısıyla İdeal Fen Bilimleri Öğretmeni: Fenomonolojik Çalışma

Öz

Bu çalışmada amaç özel yetenekli ortaokul öğrencilerinin bakış açısıyla ideal bir fen bilimleri öğretmenin özelliklerini belirlemektir. Bu amaç doğrultusunda çalışmada nitel araştırma yöntemlerinden fenomenolojik desen kullanılmıştır. Çalışmanın katılımcılarını Akdeniz bölgesinde bir Bilim ve Sanat Merkezinde eğitim gören otuz beş özel yetenekli ortaokul öğrencisi oluşturmaktadır. Katılımcıların gönüllülük esasına dayalı olarak yer aldığı çalışmada veriler yarı yapılandırılmış görüşme formu yardımıyla toplanmıştır. Çalışmadan elde edilen veriler nitel veri çözümleme yöntemlerinden olan içerik analizi yardımıyla çözümlenmiştir. Verilerin çözümlenmesinde frekans değerleri kullanılmış ve doğrudan alıntılara yer verilmiştir. Verilerin analizi sonucunda; özel yetenekli öğrenciler ideal bir fen bilimleri öğretmenin genel olarak kişisel ve eğitsel boyutlarına vurgu yapmışlardır. Kişisel boyutta ideal bir fen bilimleri öğretmenin adil, esprili ve eğlenceli olması beklenirken; mesleki gelişim boyutunda bilgili ve yaratıcı olması gerektiği vurgulanmıştır. Eğitsel boyutta öğrenciye yaklaşımında ismen hitap edilmesi ve samimi davranması istenirken, öğrenme ve öğretme sürecinde eğlenceli olma, deneyler yaptırma ve oyunlar yardımıyla ders işleme ideal bir fen bilimleri öğretmenin beklenen özellikler olarak ortaya konmuştur.

Anahtar kelimeler: Özel yetenekli, idea öğretmen, fen bilimleri.

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1 | INTRODUCTION

Considering the principle of equal opportunity in education, just like children with disabilities, children with visual or hearing impairments, gifted students too want to become aware of their potential and improve themselves (Hızlı, 2014). The cornerstone of the transformation of gifted children into individuals who are beneficial to the society is education (Darga, 2010). One of the most decisive factors in student success in the educational process is the quality of the teacher (Education Monitoring Report, 2017). No matter the difficulties faced by the students in the classroom or the abilities they have, teachers should try to integrate them into society as confident and self-sufficient individuals (Robinson et al., 2014).

Teachers who can work with gifted students should be better equipped compared to other teachers (Mills, 2003). Teachers involved in the education of the gifted students, who are different from their peers in many aspects, should be able to meet the needs of gifted students and provide them with an education in line with their needs. In order to achieve this, the teacher needs to know their characteristics and needs. Differentiated education programs are needed to bring out the potential of these students whose educational needs and requirements are different, in order to provide them with equal opportunities in education. The individual development of these students through differentiated education programs is important (Lassig, 2003; Manning, 2006). In order for teachers and students to receive education in line with their needs, they should receive adequate training on the differentiation of teaching. Teachers who are not adequately educated are incapable of meeting the needs of their students (Copenhaver & McIntyre, 1992; Hansen & Feldhusen, 1990; Westberg & Daoust, 2003). Self-improving teachers have more satisfactory results in turning their students' into successful individuals (Robinson et al., 2014). Teachers of gifted students who are preparing for professional life recognize students' needs and try to meet these needs and provide more opportunities for student success (Hansen & Feldhusen, 1994). Cheung and Phillipson (2008) stated that there are statistically significant differences in the competence and characteristics between the experienced and non-experienced teachers in the education of gifted students. In addition, the teachers' awareness of the deficiencies and faults of the current system for the gifted, will help them to propose solutions to the problems (Gökdere & Çepni, 2003).

Teachers of gifted children should present diversity in terms of character and qualifications (Dağlıoğlu, 2010). The teachers of gifted students should care for their cognitive, social and emotional differences and work around these differences and should have the required skillset to help the students to develop these aspects of theirs (Delisle, 2006; Devis & Rimm, 2004; Londvogt, 2001; Miligram & Hang, 2009; Ziv & Sarango, 2011). Bishop (1968), Drews (1972), Gallager, Aschner, and Jenne (1967), Baldwin (1977), and Lindsay (1980) stated in their research that teachers should be democratic, guiding, process-oriented, innovative, and attach importance to experiences (cited in Dağlıoğlu, 2010). In addition, teachers should be more confident and experienced regarding these students who are highly motivated and even sometimes know more than the teachers (Parke, 1992). In addition, an ideal teacher is expected to be open-minded, empathetic, tolerant, loving his/her occupation, students and teaching, and attentive to his/her students (Feldhusen, 1997; Friedman & Krongold, 1993; Raichel & Arnon, 2005). Mills (2003) stated in his study that the cognitive and personal characteristics of an effective teacher play an important role in this process. He stated that teachers who want to work effectively with gifted students should be objective, prefer to work with abstract concepts and themes, be open-minded and flexible and they should be capable of logical analysis. In his work with teachers, Woods (2004) stated that an ideal teacher should be more flexible and more cohesive, open-minded and approachable, with a broader experience and diverse and wide-ranging interests. When the relevant literature is summarized, it can be seen that experts usually emphasized the cognitive and personal characteristics of teachers working with the gifted students. It has been stated that teachers should be understanding, open-minded, flexible, guiding, and they should love both teaching and learning for themselves.

It can be surmised from the relevant literature that the expectations of gifted students from an ideal teacher usually vary. Abel and Karnes (1994) stated that in their work with gifted students living in rural areas

with low socioeconomic opportunities, students usually emphasized social and personal characteristics in an ideal teacher. Vialle (1994), who conducted similar studies in Australia, stated that students only emphasized personal characteristics of the teacher and in which they are expected to be understanding and helpful. Tischler and Vialle (2009) demonstrated that gifted students look for appropriate personality traits in an effective teacher with active and diverse pedagogical approaches and positive intellectual qualities. Miligram (1979), who worked with fourth and sixth grades in Israel, stated that students only focus on intellectual features. Another study by Miligram (2000) showed that gifted children also want their teachers to have features such as creativity, positive personal and social behavior, the use of rich and complex materials, and regular classroom management. It was also revealed in a study by Cross and Coleman (1992) that students wanted their teachers to be quicker, more creative and more action oriented in science class. They also stated that they received less emotional support from their teachers and wanted to be treated the same way other students were treated. Hativa (2003) stated that teachers should be capable of finding ways to best explain the subject to the students, have up-to-date information about their field of teaching, and have a wide knowledge of materials and methods that they can use during teaching. In addition, gifted students described their teachers as "teachers of the future" and emphasized that these teachers should be open to change and innovation and should effectively use multimedia, in order to achieve this (Ziv & Sarangon, 2011). For gifted students, a good teacher should be good in terms of personality, character and teaching skills. He/She should be able to develop a personal teacher and student relationship (Devis & Rimm, 2004; Khalil & Accariye, 2016; Leikin, 2001). We can surmise from the relevant literature that the characteristics that the ideal teacher should have for gifted students vary. While some students emphasized the cognitive aspect of teachers, some emphasized the importance of their personal characteristics. However, in general, it was emphasized that an ideal teacher should be intellectual, creative, have a broad knowledge of methods, open to innovations, and possess positive personality traits.

In conclusion, teachers who work with gifted students need to teach these children how to think (not what to think), how to communicate, how to develop their concept of self, how to solve problems, how to work independently, how to use big data and how to acquire special working skills (Duneland Schools, 1986). In summary, given the relevant literature, we can see that there are many different studies on what characteristics should be found in teachers working with gifted students and what these students expect from their teachers. Considering the studies conducted in both Western and non-Western countries, it can be said that the expectations of students in general differ according to the characteristics of the societies in which they live. In this study, gifted secondary school students who are in an exam-oriented and competitive education system were studied. The aim of the study is to reveal (from the perspective of these students);

- a) What gifted students think of about an ideal science teacher
- b) What qualifications teachers should have in order to perform an effective education in the classroom

In accordance with this purpose, it was aimed to determine the personal and professional development of an ideal science teachers of gifted students, their approach to themselves and their expectations throughout an effective education and training period. In addition, it was intended to take remedial actions for these identified situations in the future and to be able to give an effective science lessons.

2 | METHOD

RESEARCH DESIGN

Phenomenological method from the qualitative research methods was used in the study. Phenomenology which seeks to identify facts rather than generalizations (Creswell, 2013) allows us to investigate and make sense of concepts such as events, experiences, perceptions and orientations (Yıldırım & Şimşek, 2005). The goal is to understand the basic structure and essence of intensely intricate human experiences (Merriam, 2013).

PARTICIPANTS

Thirty-five gifted secondary school students studying at a science and art center in the Mediterranean region of Turkey have been selected as the participants of the study. Convenience sampling method was used to reach gifted students who were educated in different schools but attended the Science and Art Center in their free time. Thus, the researcher selected the individuals who would participate in the study from people who were close and easy to access. This way, the study was conducted rapidly and more practically (Yıldırım & Şimşek, 2005). All secondary school students attending the science and arts center were informed about the study; however, data was collected only from students who wanted to participate voluntarily in the study. The characteristics of the student participating in the study are given below:

Table 1. Frequencies of The Characteristics of The Participants

Grade	Frequency (f)	Gender	Frequency (f)	School type	Frequency (f)
5th Grade	10	Female	17	Public	21
6th Grade	11	Male	18	Private	14
7th Grade	9				
8th Grade	5				

DATA COLLECTION TOOLS

For the data collection process, a semi-structured interview form created by the researchers was used. In the first part of the form, there is a personal information form with demographic information to reveal participant characteristics; in the second part, there are four open-ended questions to help reveal participants' thoughts on the subject. During the preparation of the questions in the interview form, both the relevant literature and the "General Qualifications of the Teaching Profession" determined by the Ministry of National Education were taken into account. A pilot study was conducted before the final version of the interview form created. The first open-ended question of the interview was "What kind of features would you like an ideal science teacher to have?" In the pilot study, "What kind of features would you like an ideal science teacher to have?" was asked as an open ended question. But, given the responses from students, it was found that this was a very general question and not enough data was collected from the answers. It has been observed that students focus only on personality traits or cognitive characteristics and give very short answers. In line with the pilot interview and expert opinions received (one associate professor, two doctoral faculty members, one science teacher), in order to elaborate the question form, the number of questions were increased to four and the interview form was finalized.

1. What kind of personality should an ideal science teacher have?
2. How should an ideal science teacher approach to students?
3. How should an ideal science teacher handle the course?
4. What should be the ideal knowledge of an ideal science teacher about the course?

DATA COLLECTION

In the actual data collection process of the study, first of all, students were informed about it, then, only the students who volunteered were included in the study. The timing of the interview was decided according to the wishes of the students. Interviews were held with each student, which lasted between 6 to 10 minutes. In order to prevent data loss, the interviews were recorded with an audio recorder after the permission of the participants were obtained. The interviews were conducted in a quiet and calm environment in order to prevent the students from being distracted. The questions were asked based on the order in the interview form. In order to elaborate the answers of the students, probes were sometimes used, and participant confirmation was also used to prevent data loss. The researcher was careful not to ask directing questions

during the data collection process and not to affect the responses of the participants. The researcher rapidly transcribed the data obtained and corrected it by immediately identifying and correcting the failures.

DATA ANALYSIS

Descriptive statistics and content analysis were used to organize and summarize the obtained data. In the study, the overall outcome was described using frequency (f) and percentage (%) values in the analysis of the data obtained to determine the demographic characteristics of the students and the characteristics of the ideal science teachers. In order to combine similar data around specific concepts and themes and to present them in a language that the reader can understand, the students' answers to the questions contained in the interview form were subjected to content analysis. By examining the data in detail, first the codes, then similar codes were put together and combined to create themes. At the beginning of this process, two researchers worked independently of each concurrently. Similarities and differences in the code list created by the two researchers were compared and the percentage of coding was found to be 78%. This percentage must be at least 70% for it to be reliable (Patton, 2014). After calculating the reliable encoding percentage, the researcher conducted the data analysis alone. In the process of creating codes and categories, the relevant literature and the General Qualifications of the Teaching Profession updated by The Ministry of Education in 2017 were taken into consideration (Ministry of Education, 2017, p.8-11). In the coding process performed within a general framework, both the conceptual framework was used, and the researcher studied the data and produced new codes (Yıldırım & Şimşek, 2005). Themes were created by combining similar codes. General Qualifications of the Teaching Profession consist of 3 qualification areas and 11 sub-qualifications related to these qualifications. Main qualifications consist of "professional knowledge", "professional skills", "attitudes and values", while 11 sub-qualifications are educational knowledge and regulatory knowledge, planning, being able to create learning environments, being able to manage the learning/teaching process, being able to monitor and evaluate development, being able to monitor and evaluate learning, approach, national, spiritual and universal values and the development of communication and cooperation skills and personal and professional values (Ministry of Education, 2017, p.8-11).

VALIDITY AND RELIABILITY

Reliability and validity in qualitative research is considered to be different from the quantitative study. There are number of strategies that qualitative researchers can be used to increase credibility of findings: credibility, dependability, confirmability and transferability (Creswell, 2013; Merriam, 2013). In order to ensure credibility of the study, expert opinion was obtained on the scope of the study, voice recorder was used to prevent data loss and participant confirmation was ensured. Detailed information about data collection process, data analysis and sampling is provided to ensure transferability. For consistency, the obtained data was confirmed with a different researcher; the obtained data was presented with direct citations and adhered to the pre-formed conceptual framework (Relevant literature ve General Qualifications of the Teaching Profession updated by The Ministry of Education in 2017). In order to ensure objective confirmability, the researcher informed the participants at the beginning of the process about the purpose of the study and how it will be done and how the data will be evaluated.

3 | FINDINGS

The characteristics required in an ideal science teacher according to gifted students are categorized by taking into account a) three qualification factors of Ministry of Education and 11 sub-qualifications related to them, b) conceptual framework. The codes that make up the categories are presented, along with the percentage, frequency values, supported by direct citations.

PERSONAL AND PROFESSIONAL VALUES

This category was created with the help of answers obtained from the first question of the semi-structured interview form (What kind of features would you like an ideal science teacher to have?). The

category of personal and professional values is examined in two sub-themes: Personal qualifications and professional values.

Table 2. Views On Personal Characteristics

Personal Qualities	Frequency (f)	Personal Qualities	Frequency (f)
Fair	21	Friendly	5
Humorous	14	Disciplined	5
Entertaining	13	Motivating	4
Sincere	6	Smart	3
Understanding	6	Honest	3
Mild-mannered	6	Polite	3
Patient	6	Good-humored	2

As table 2 indicates, students have very different expectations from their science teachers in terms of personal characteristics. As a result of students' responses, 15 different codes were created. The most repeated of these codes is the desire for the teacher to be fair then humorous and entertaining, while the least repetitive code is the desire or the teacher to be good-humored.

The most repeated code by students is fairness. As an example to this, S35 says: *"The teacher should treat every student equally and should be fair. He/She shouldn't accuse a student unfairly and protect another. When this happens, guilty ones can never learn what is right, as he/she is constantly justified."* Similarly, S12 says: *"I think the most important thing is fairness. Some students make a lot of mistakes, but they are always overlooked, while the teacher is ruthless to others."* S26, who emphasized friendly and sincere traits in a teacher says: *"I think a science teacher should first be motivating, friendly and sincere. If the teacher does not possess these qualities, I don't want to listen to the lesson at all."* Similarly, S1 says, *"Teachers should be friendly and understanding. The more good-humored he/she is, the better. This way, we can feel comfortable around him/her"*. S7, who emphasizes a mild-mannered and patient teacher says: *"He/She should not be angry or yell at us. If that happens, the student can't focus on the lesson and learn."* Similarly, S6 says: *"He/She shouldn't yell all the time, should be calm. I wouldn't want to have an angry teacher. When someone speaks, teachers should not start yelling right away, but listen first and answer if there is something to be answered."* As for being entertaining and respectful, S22 says, *"He/She should be an entertaining and knowledgeable teacher who respects everyone's decisions."*

Regarding the professional development aspect, students want their teachers to be knowledgeable. As for how knowledgeable they want them to be, there are three different codes: good, very good and adequate. In addition, they want the teachers to be open to different ideas, to be creative and to constantly improve themselves.

Table 3. Professional Development

Professional Development	Frequency (f)
Knowledgeable	21
Continuous Self-Improvement	18
Creative	2

As shown in Table 3, three different codes have been created for students' expectations of science teachers in terms of professional development. Of the generated codes, the most emphasis is on knowledgeable (21), while the least is on creative (2). Some student opinions regarding the generated codes are conveyed directly with citations.

Regarding the most repeated code which is "knowledgeable", S5 says "Teacher should be wise so that he/she can answer every question of students", while S15 says "He/She should be highly knowledgeable. This way, he/she can explain the lesson better and give us more descriptive information from everyday life so that we can understand it better.". Similarly, S33 says "It is more than enough if he/she is well-versed in science at the secondary school level, to answer all our questions." S26, who wants teachers to constantly improve themselves says, "He/She should talk to us about science. For example, if there is an upcoming important scientific event, he/she should ask if we know about it. He/She should inform us about that event and discuss it with us." Similarly, S18 says "He/She should be an expert. He/She should be able to answer all our questions. He/She should also keep an eye on scientific developments and talk to us in the classroom about these topics." S35, who emphasizes the creativity of teachers says, "He/She should be creative because science is not about memorizing text-books. He/She should be able to comment on matters that are open to interpretation."

STUDENT RECOGNITION

With the help of answers from the second question of the semi-structured interview form (how should an ideal science teacher approach students?), students in this theme have focused on caring, attention and consideration to the needs in general.

Table 4. Student recognition

Student recognition	Frequency (f)
Addressing by Name	20
Being Sincere	16
Considering Individual Differences	5
Responding to Needs	3
Sweet Talk	3
Helpful	1
Impartial	1

As shown in Table 4, eight different codes have been created for students' expectations of science teachers in terms of their approach and communication. Of the generated codes, the most emphasis is on addressing by name (20), while the least is on being helpful and impartial (1). Some student opinions regarding the generated codes are conveyed directly with citations

At the point of addressing by name, which is the most repeated code, S23 says "It sounds more sincere when I am addressed by my name and it is better. A science teacher once called me lady, and I didn't understand if she was addressing me or not." Similarly, S19 says "By name, definitely. My teacher once addressed me as "that", it wasn't very nice. Because people can be sensitive and fragile about this." S32, who stated that individual differences should be considered, says: "I think individual differences should be taken into account. My science teacher used to be mad at me for asking questions in class before he knew that I was a student of the Science And Art Center. He would think that I was asking stupid questions and interrupting the course. But after he found out about my condition, he became more understanding. We've got it resolved now, but I think it's very important." S17 says, "He/She should treat the students nicely. He should have the ability to observe the students and recognize them." On the other hand, in terms of responding to needs, S29 says "He/She should take into account the interests and needs of all students. In a course that does not meet hes/her interests and needs, the student's productivity decreases and the course become boring." S8, who wants the teacher to be sincere says, "I want my teacher to be sincere and helpful. We should be able to go to him/her and talk freely whenever we have a problem so that he/she can help us". Similarly, S21 says "He/She should be sincere but not too much. In the end, it is a teacher - student relationship, there has to be a limit to

intimacy." S3, who wants his/her teacher to have a sweet talk says, "He/She should have a sweet talk and should be sincere. Occasional jokes are OK, but he/she should know how to keep it in under control."

LEARNING AND TEACHING PROCESS

In relation to the learning and teaching process, the students generally focused on the function of the course. Students consider a teacher who handles the course in an entertaining way, who uses different methods, and generally handles the course with practical activities, as an ideal science teacher. In addition, treating students equally and ensuring dominance in classroom are considered characteristics that should be found in an ideal science teacher.

Table 5. Learning and Teaching Process

Learning - Teaching Process	Frequency (f)	Learning - Teaching Process	Frequency (f)
Entertaining	20	Ensuring memorability	5
Experimenting	15	Using Materials	3
Playing games	13	Classroom Management	2
Treating Equally	10	Smooth language	2

As shown in Table 5, eight different codes have been created for students' expectations of science teachers during the course process. The most emphasized of the generated codes are entertaining courses (20), while the least are class management and smooth language use (1). Some student opinions regarding the generated codes are conveyed directly with citations.

S34, who stated that courses should be fun says "lessons should be fun, but of course, they should not be interrupted with too much fun" S7 says, "I think classes should be enjoyable. The teacher should explain the topic first, let us write down the important parts. With lots of examples. Then we can play games about the subject." S11, who wants the courses to be hands-on and memorable, taught together with games says "The teacher should explain the lesson in a fun and memorable way. He/She can reinforce the subject matter by providing examples from everyday life. Then maybe an experiment can be done, if no experiments are available, maybe we can play some games." Similarly, S8 says, "I think the teacher should make classes enjoyable by doing different things. Maybe make the lesson more memorable by letting us play games." S9 also gives some examples for the games that he/she is talking about. "It could be coding." It's easier and more memorable to live and experience and learn. We can also do experiments." S31, who gives examples for the practice says "The lessons should be more hands on. Let's say, the topic is the refraction of light. We can have some experiments about this topic. If the subject allows for experiments, we should definitely have them. The teacher should use various methods and techniques and materials." S27, who wants teachers to treat everyone equally during the lectures says, "The lectures should be comprehensible for everyone in the class. Teacher should not only be interested in those who attend the course, but rather should try to engage everyone. He/She should act fairly and equally to all the students in the class, regardless of the student being good or not. All students should be equal for the teacher." Emphasizing the teacher's classroom management, S33 said, "Teacher's classroom management should be adequate. But this is more about the student than the teacher. If all students are agreeable and smart, the teacher can be more comfortable."

4 | DISCUSSION & CONCLUSION

The purpose of this research is to a) reveal what the gifted students think of an ideal science teacher, b) find out what characteristics science teachers must have in order to carry out an effective education in the classroom, from the perspective of those students. Based on the data obtained for this purpose, the expectations of gifted students from an ideal science teacher are generally similar to those expected from an

ideal teacher of any other subject. The analysis of the data obtained revealed that the students focused in general, on the personal and educational dimensions of an ideal teacher. Students' emphasis on these dimensions is consistent with many past studies that suggest that an ideal teacher should have two important characteristics, such as professional knowledge and personality traits (Arnon & Reichel, 2007; Devis & Rimm, 2004; Khalil & Accariye, 2016; Leikin, 2001; Mills, 2003; Woods, 2004). In addition, when the findings obtained from the students are examined within the framework of the general qualifications updated by the Ministry of Education in 2017, it is clear that the characteristics of the ideal science teacher expressed by the students are in harmony with the characteristics determined in the dimensions of "Personal and Professional Values – Professional Development", "Student Recognition" and "Learning and Teaching Process" determined by The Ministry of Education. In addition, students have concentrated on some personality traits that are not included in the general qualifications organized by the Ministry of education, but which they think should be in the ideal science teacher. Because while the students discussed the personality traits they seek in detail in the study, Ministry of Education used rather more general expressions. For example, Ministry of Education focused only on empathy and tolerance when it comes to the aspect of approaching the student. The literature supports the outcome of our study suggesting that students concentrate on the personality traits in the ideal teacher (Abel & Karnes, 1994; Tischker & Vialle, 2009; Vialle, 1994). The personality traits sought after are seen as the most important characteristic to be found in an ideal science teacher for gifted students.

Given the personal characteristics that an ideal science teacher should have, students were generally more focused on the teacher being fair (60%), smart (40%), and entertaining (37%). The emphasis on fairness in personal characteristics can be explained by the improved sense of justice among gifted children. These children are different from their peers emotionally and socially as well as in the cognitive field. They are susceptible to any inequality in the classroom environment. The findings are consistent with the findings of Cross and Coleman (1992). Cross and Coleman (1992) also stated that gifted students do not want to be treated differently from other students. The expectation from an ideal teacher to be witty and funny can be explained by the strong sense of humor of gifted children. Friedman and Krongold (1993), Raichel and Arnon (2005) similarly emphasized that an ideal teacher should develop a sense of empathy, be tolerant, love his/her work, students and teaching, and be attentive to his/her students. These personality traits that students demand from their teachers can be explained by the fact that their social and emotional needs have not been met by their teachers before.

In the professional development dimension, the emphasis was made on knowledgeable, continuously improving and creative teacher characteristics. Here, the primary emphasis was made to the teacher's own education (Copenhaver & McIntyre, 1992; Hansen & Fedhusen, 1990; Westberg & Daoust, 2003) and his/her response to the needs of students through this education that he/she received. Because in general, students want their teachers not to ignore their questions but answer each and every one of them. The finding suggesting that students do not want their questions being ignored by the teachers is parallel with what Çelikdelen (2010) has found. In his work, Çelikdelen (2010) emphasized that students complain the most about teachers dodging their questions. It is very important to improve oneself in the teaching profession. Self-improving teachers can achieve more positive results in bringing success to their students (Robinson et al., 2014) and advance their work in this direction, recognizing student needs (Hansen & Feldhusen, 1994). The importance of a creative science teacher has also been emphasized by many studies. In his study, Milligram (2000) achieved a similar result, stating that students demand creative teachers. It supports the findings obtained in other studies. Ziv and Sarangon (2011) have demonstrated that teachers should be open to innovation and changes, while Hativa (2003) stated that teachers should follow up-to-date information in their respective fields. While Bishop (1968), Drews (1972), Gallager, Aschner and Jenne (1967), Baldwin (1977) and Lindsay (1980) focused on the innovative and experience-minded teacher (Cited in Dağlıoğlu, 2010); studies that emphasize direct creativity are also available (Cross & Coleman, 1992; Ziv & Sorongon, 2001). In light of these findings, which are supported by literature, we can say that an ideal

science teacher, from the gifted students perspective, should constantly improve him/herself, use creative activities in his/her courses and be sensitive to students' needs.

The second dimension created in the light of the findings of the research is "Student Recognition". The most number of answers obtained under this dimension was "being addressed by name" (58%) and "sincerity" (46%). Especially being addressed by name is of particular importance for students. Because they emphasized that people can be sensitive and fragile at this point. This result can be explained by the fact that the students are emotionally sensitive and have strong feelings towards sincerity (Clark, 2002; Cited in, Levent, 2013). The emphasis on individual differences is consistent with the work of Hansen and Feldhusen (1994), which demonstrated the demand of gifted children for the creation of a learning environment by their teachers, taking into account the student needs. Likewise, many studies emphasized the importance of individual teacher-student relationship, by supporting the relevant finding (Devis & Rimm, 2004; Khalil & Accariye, 2016; Leikin, 2001). Dağlıoğlu (2010) stated that gifted students should have different qualifications. Likewise, Cheung and Phillipson (2008) stated that teachers of gifted students should have different competencies in order to adequately guide them. In addition, the necessity for teachers of these students with different needs, to be able to realize and meet these needs, is supported by other studies (Delisle, 2006; Devis & Rimm, 2004; Londvogt, 2001; Miligram & Hang, 2009; Ziv & Sarangon, 2011). A perceived ideal science teacher is seen as someone who is close, warm and friendly towards the students. This can be explained by the fact that these students, who are different from their peers, want to be taken seriously as human beings and individuals.

As for the final dimension, the "learning and teaching process", students have stated that they want the lectures to be practical and entertaining. In addition, material usage and classroom management are aspects added to this dimension. At this point, the students' desire to be involved in the process reveals also their desire for the teacher to be their guide. Parke (1992) stated that science teachers should be more guiding. Milligram (2000) and Hativa (2003) also stated that gifted children want their teachers to use rich and complex materials and have good classroom management skills. Cross and Coleman (1992), in their study, found that students wanted more action-oriented activities. Ziv and Sarangon (2011) also emphasized the need for teachers of the gifted to use multimedia effectively. The desire for more application-based and material-based training in the lectures can be explained by the rather high academic ego and internal motivation of gifted students.

In light of all the findings obtained, an ideal science teacher for gifted students a) should have a close and sincere communication with his/her students, b) treat all students equally and fairly, c) continuously improve him/herself and d) explain their courses in an entertaining and practical manner. Teachers who will work with these students are expected to be better equipped with knowledge, skills and qualifications compared to other teachers (Chan, 2001). Unfortunately, there is no clear system in our country regarding the choice of teachers who will work with the gifted students (Gökdere & Çepni, 2003; Gökdere & Çepni, 2004). The science teachers are limited to the special courses they receive during their undergraduate studies and the in-service training seminars they receive during their teaching days (Gökdere & Çepni, 2004). Nevertheless, what is expected of teachers is to train these students to meet their needs, taking into account their abilities. This will also help to identify perceptions of the gifted students regarding the learning environment by identifying students' perceptions of an ideal teacher (Kanevsky & Keighley, 2003). Identifying the perceptions of these students, who spend most of their time at school and have an innate interest in science, is important both in terms of regulating the learning environment and in order to take the necessary measures in terms of the teachers' approach to these students and the realization of their potential.

This study is limited a Science and Art Center and 35 students studying at this center and the interview questions in the semi-structured interview form used for the data collection process. Data was collected by interviewing 35 students. Recommendations that can be given in line with the answers of gifted students are: a) trainings to help develop communication skills in order to develop a healthy communication; b) In order to be an effective guide in the classroom environment, teachers can participate in trainings and in-house seminars on effective strategies, methods and techniques that will enable them to be able to respond to the

educational needs of gifted students. The same study can also be made using quantitative research methods with a larger sample. Thus, generalizations can be made based on sampling through the findings obtained from the study.

STATEMENTS OF PUBLICATION ETHICS

I declare that the research has no unethical problems and I observe research and publication ethics.

CONFLICT OF INTEREST

The author proclaimed that there was no conflict interest in the publication and authorship of the article.

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