

# KNOWLEDGE LEVELS OF SCIENCE AND CLASSROOM TEACHERS ABOUT GIFTEDNESS CONCEPT

**Murat Gökdere**

Amasya University, Amasya, Turkey

E-mail: mgokdere@yahoo.com

## Abstract

*This study aims to examine the knowledge levels of class and science teachers in primary schools about the education of gifted and talented children. As the sample in this study, 55 classroom teachers and 40 science teachers working at the city of Amasya in Turkey were selected, which was conducted within the scope of case study methodology. A test concerning the characteristics of gifted and talented children and a semi-constructed interview method were used in the collection of data. Considering the findings obtained, it can be stated that classroom teachers have a higher level of knowledge than science teachers do. In addition, it cannot be stated that classroom teachers have sufficient levels of knowledge about the education of gifted and talented children. Insufficiency in both teacher groups is considered to be due to the absence of any training concerning the concept of giftedness and the characteristics of these students in pre-service and in-service training processes in the past. In order not to have any hitches in the process for identification of gifted and talented children, studies should be made with respect to improving the knowledge levels and qualities of candidate teachers and the teachers on duty about the characteristics of gifted and talented children.*

**Key words:** classroom teachers, giftedness, science.

## Introduction

Giftedness and education of gifted and talented children are subjects that have been of secondary importance in Turkey, like in many societies (Akarsu, 1995; Gökdere & Küçük, 2003). Since normal education media have restricting impacts on their potentials, the education provided in such education media is insufficient for gifted and talented children and these children require comprehensive education opportunities. In countries, where progress has been made in the field of education of gifted and talented children, these individuals are provided with education by means of the curricula and systems prepared considering their abilities, emotions, thoughts and values (Feldhusen, 1997; Renzulli, 1999; Bets, 1986; Braggett, 1990).

Gifted and talented children bear some characteristics that are unlike those of their peers (Feldhusen, 1986; Gallagher, 1998; Tannenbaum, 2002). For instance, gifted and talented children can learn easily and quickly, can think originally and deeply, can learn reading and writing earlier than their peers do, have social maturity, have multi-dimensional interests and different hobbies, have a more mature structure than their peers, can think abstractly, and have a more positive concept of self (Feldhusen, 1986; Lubart, 1994; Renzulli, 1999; Madson and Mönks, 2002). Individuals with such characteristics constitute approximately 2% of the society. Gifted and talented children can be encountered in different socioeconomic and cultural layers of the society (Sayler, 1994; Ellen, 1998). However, the children of families with a high social status have a higher chance to be identified. A study by Gökdere&Çepni (2005) demonstrates that this is also valid for Turkey.

The earlier the existing abilities of a child are realized, the better it is for the development

of the ability realized (Renzulli & Reis, 1986; Callahan et al., 1993; Barger, 2009). Hence, the student will be kept away from the factors to affect the hebetation of these abilities, and the child will be provided with media to develop his abilities. Therefore, important missions fall to teachers in the process for identification of gifted and talented students (Karnes et al., 2000; Chan, 2001; Croft, 2002). Realization of the existing giftedness of children and their manipulation to special education in order to develop their abilities concerned are the primary missions among these missions. The extent of their teachers' effective fulfillment of such missions is directly proportional to the background of knowledge regarding this field. If a teacher has a poor background of knowledge, he will fail to fulfill these missions effectively and many gifted and talented students will complete their education processes without being realized in the society (Rogers, 1989; Hansen and Feldhusen, 1994; Sisk, 2009).

In Turkey, gifted and talented students are educated at the Science and Art Centers (SAC), a different education institution, independent of their school programs and during times which remain from their school. The process for selection of gifted and talented students to be educated at these centers basically consists of 3 stages, namely:

1. Nomination process,
2. Group scanning ,
3. Individual examination, respectively (Journal of Papers, 2001).

The process for selection of children to SACs consists of three stages, namely, nomination process, group scanning, and individual examination.

**(i) Nomination Process:** In order to determine gifted and talented children, the observation forms prepared by the MNE (Ministry of National Education) are sent to the pre-school, primary and secondary institutions in provinces and towns by means of the directorates of SACs in October of each academic year. These forms are filled in by pre-school teachers in pre-school period, by branch teachers for grades 1 to 5 and by branch teachers' board for grades 6 to 8 in primary education institutions and by class teachers' board in secondary education institutions. These forms have been prepared in order to provide teachers with an opportunity to realize the characteristics required to be owned by gifted and talented children. After these forms are filled in by teachers and delivered to the directorates of SACs, field experts check whether they have been filled in carefully and the forms that are decided not to have been filled in objectively are excluded from evaluation. As a result of the examination of forms, the candidate children, who differ positively from their peers and whose names are declared, are entitled to enter group test, which is the next stage (Journal of Papers, 2001).

**(ii) Group Scanning:** The children, who are nominated for the SACs, are subjected to a group test, prepared by MNE, every year in May and at the dates determined by the directorates of SACs. The teachers employed at the SACs work in this process. The children, exhibiting adequate success in these group tests and being convenient in terms of intellectual ability, are subjected to individual examination.

**(iii) Individual Examination:** Those who are convenient in terms of special ability among the children exhibiting high achievement in group scanning test are subjected to individual examination by the experts of guidance and research center. At this stage, different types of intelligence tests are applied. The children, who are suitable in terms of special ability, are subjected to re-examination by the experts of SAC. So as to determine the gifted and talented children educated in formal pre-school education institutions, the children, who are nominated by the teachers working in these institutions, are subjected to direct individual examination by the experts of Guidance and Research Center (GRC).

At the end of the process for identification of gifted/talented children, the group scanning, IQ and ability scores of each child are ranked in the descending order. WISC and Stanford-Binet intelligence tests are mostly used in determining the IQ levels of children. At the end of this ranking, considering the quotas of the SACs, some of the children are entitled to be regis-

tered to these centers. Thus, in the event of a surplus of quota, some of the children examined are unable to be registered to the SACs even if they are gifted/talented. In addition, at the end of each academic year, the SACs inform MNE about the number of children they can accept in the following semester and, in this way, the number of children to be accepted by each SAC is determined beforehand.

At science and art centers, the selected children attend a five-stage education program, namely, Adaptation (Orientation) Stage, Supplementary Education Stage, Stage that Has Individual Characteristics Realized, Stage that Develops Special Abilities, and Project Production Stage (Journal of Papers, 2001).

The duration of each education stage is left to the SAC concerned. Within and at the end of this process, education programs are evaluated and evaluation reports are prepared by the guidance and leader teachers working at the SACs. These stages all have different degrees of significance in the education of gifted and talented children. The information on the stages of this education model is given below.

### *Problem of Research*

This study aims to make a comparative examination on the knowledge levels of classroom teachers and science teachers about the characteristics and education of gifted and talented children.

### *Research Focus*

When the process for selection of gifted and talented children is considered, it is clearly seen that the role of their teachers particularly at the nomination stage is quite important. Any errors or negligence to be made at this stage might cause gifted and talented children not to be realized and therefore not to benefit from special education (Davis & Rimm, 1994; Ellen, 1998; Chan, 2001). Especially at the nomination stage of identification process in our country, the observation results of the class teacher at Primary Education Level I (Grades 1 to 5) and of a board of branch teachers at Level II (Grades 6 to 8) are used as basic and initial data. It is quite important to determine the knowledge level and competence of the teachers, who have such essential duties and responsibilities in the process of discovering and manipulating a gifted and talented child, with respect to the concept of giftedness (Chan, 2001). This will cast a light on planning an in-service training to be held with the purpose of eliminating the possible shortcomings of teachers regarding gifted and talented students and their education (Wood and Leadbeater, 1986; Karnes, 2000). The outcomes to be obtained from such an activity are thought to contribute to the education of gifted and talented students.

## **Methodology of Research**

### *General Background of Research*

In this study, where case study methodology (Basse, 1999) was used, the achievement test, the validity and reliability of which were studied, and teacher interview form were used for data collection. The studies for the preparation of achievement test and interview form are further presented under the title of preparation of data collection instruments. The achievement test was applied to all teachers included in the sample

### *Sample of Research*

As it is a case study, 55 classroom teachers and 40 science teachers working in pri-

mary schools at the city of Amasya in Turkey were selected as the sample group. The group of classroom teachers included in the sample consists of 33 female and 22 male teachers with 3- to 26-year professional experience. On the other hand, the group of science teachers consists of 18 female and 22 male teachers with 2- to 23-year professional experience. None of the teachers included in the sample had ever received any training about the education and characteristics of gifted and talented children.

#### *Instrument and Procedures*

Before the preparation of achievement test, the literature on the characteristics of gifted and talented students was studied. As a result of this literature study, a list of questions with 26 items was created. The list of questions created was subjected to examination by field experts and it was intended to attain scope validity. The item analyses of this test were made and 3 items with a low distinguish ability were excluded from the test. Furthermore, this list of questions was applied to a group of 30 teachers and the obtained data were analyzed. 3 more items, which lowered reliability, were excluded from the test and an achievement test of 20 items with .75 was obtained. Of 20 questions in the achievement test, 5 were related to the intellectual characteristics of gifted and talented children, 5 were related to their social-affective characteristics, 5 were related to their personal characteristics, 3 were related to their physical characteristics and 2 were related to the teacher characteristics of gifted and talented children. After the achievement test had been finalized, the test concerned was applied to 95 teachers included in the sample under the supervision of the researcher. The obtained data were tabulated and presented.

#### *Data Analysis*

The semi-constructed interview questions aim to determine the extent that teachers are able to realize gifted and talented children and, if they are able to realize them, they aim to determine which criteria they take as the bases in this process and how they behave towards them after they realize them. First of all, draft questions that were suitable for the purpose of the interview were created. The draft questions prepared and a written document including the purpose of the interview study were delivered to the field experts. The six-question form arranged in line with expert opinions was subjected to examination by language experts for checking its readability. The finalized interview questions were conducted with 10 classroom teachers and 10 science and technology teachers selected randomly among a group of 95 teachers. A recorder was used during the interviews and then the data were analyzed (Bell, 1989; Cohen and Manion, 1989).

In the analysis of the findings of semi-constructed interview conducted with the teachers, first of all, the *triangulation technique* by Mathison (1988) was used in the responses of each teacher to the questions. In some questions, however, due to the high diversity of ideas, it was preferred to present the interview data without any changes/corrections, as also stated by Yin (1989), so as to take all data into consideration. Small-scale evaluations regarding the question were made at the end of the responses of teachers to each question.

#### **Results of Research**

The findings obtained as a result of the application of achievement test to the teachers and the interview data are presented respectively. First of all, the data obtained from the test are presented.

*Findings Obtained as a Result of Application of Achievement Test*

Table 1 gives the distribution of achievement test results of teachers according to score intervals. Evaluations are made at 0-100 score intervals and each correct answer is regarded as equivalent to 5 points.

**Table 1. Intervals of achievement scores of teachers.**

Point	Class Teachers (N:55)	Science Teachers (N:40)
90-100	-	-
80-89	6	1
70-79	5	2
60-69	17	7
50-59	10	7
40-49	8	14
30-39	5	7
20-29	4	2
0-19	-	-

As also observed from Table 1, 17 classroom teachers and 7 science teachers are at the score interval of 60-69.

The fields related to the items in the achievement test and the numbers of correct answers given to these items by the teachers are given in Table 2.

**Table 2. Rates of correct answers according to characteristic groups.**

Areas of questions	Number of Question	Class Teachers' Total Answers	Class Teachers' Number of Correct Answer	Science Teachers' Total Answers	Science Teachers' Number of Correct Answer	%Value Class Teacher	%Value Science Teacher
Intellectual Characteristics	5	275	203	200	135	73.8	67.5
Social and Affective Characteristics	5	275	207	200	82	75.2	41.0
Personality Characteristics	5	275	176	200	126	64.0	63
Physical Characteristics	3	165	120	120	17	72.7	14.1
Teacher Characteristic of Gifted student	2	110	60	80	40	54.5	50

As observed from the data in Table 2, classroom teachers gave 75.2% correct answers to the questions about the social-affective characteristics of gifted and talented children while science and technology teachers gave 41% correct answers to the questions concerned.

*Results Obtained From the Interview*

Similar answers to each question were generalized and different answers were indicated separately. These questions and the obtained answers are presented below respectively.

**Question 1:** Since each teacher stated more than one criterion in response to the question “If you were asked to identify a gifted and talented child, how would you identify?” the answers given by the teachers were frequenced and are presented in Table 3.

**Table 3. Criteria used by teachers for identifying gifted and talented individuals.**

Criteria used for identification	Classroom teachers N:48	Science Teachers N:30
Asking questions at the advanced degree	5	4
Making different comments	-	3
Disharmony with peers	6	3
Creative thinking	2	6
Paying attention to details	5	-
Being away from routine activities	-	1
Quick comprehension	9	3
High intellectual skill	6	3
Hyperactivity	4	1
Being above average in behaviors and activities	4	-
Ability to design independent projects	2	5
Ability to answer the questions quickly and multi-dimensionally	3	1
Having comprehensive and delicate thoughts	2	-

The diversity of “criteria for identifying giftedness”, expressed by classroom teachers in Table 3, is striking. The highest emphasis by classroom teachers was made on the criterion “quick comprehension (9)” whereas science and technology teachers made more emphasis on the criteria “creative thinking (6)” and “ability to design independent projects (5)”.

**Question 2:** *In your opinion, at what ages should the characteristics of gifted and talented children be realized so as to obtain maximum efficiency from these children?*

To this question, 7 science and technology teachers responded by saying “if they are realized in pre-school period, it will be better” while 3 teachers responded by saying “if these students are realized at Level I of primary education, better efficiency can be obtained”.

To the same question, 4 classroom teachers responded by saying “the earlier the age of realizing the high ability of the child is, the better it will be”. The remaining 6 teachers responded that it should be determined when they are 36- to 72-month-old, which is the pre-school period.

**Question 3:** *Is special education necessary for gifted and talented students? Why?*

To the question concerned, 6 science and technology teachers stated “special education is necessary” while 4 teachers responded by saying “special education is unnecessary”. 9 classroom teachers stated “special education is definitely necessary” whereas only 1 teacher responded by saying “I do not consider it necessary”:

The answers of the teachers, who responded to the question “Why?” by saying “Special education is necessary”, are itemized as follows.

- Normal school curriculum program remains below the level of these students;
- Since the teachers are unaware of special learning models in the education of gifted and talented children, this education has to be provided by teachers who are specialists in

the field of education of gifted and talented children;

- Individual differences are ignored by teachers in the explanation of subjects;
- There are technological insufficiencies at schools;
- Due to the limit of curriculum programs, the importance required cannot be attached to the areas of interest of students;
- Normal education will be simple for these students. It will fail to meet the learning needs of students;
- Special education is necessary for the development of their existing abilities before being hebetated; for their adaptation; and for obtaining better efficiency;
- Special education is necessary for them to develop their abilities and for being motivated.

The answers of the teachers, who responded to the question “Why?” by saying “Special education is unnecessary for gifted and talented children”, are itemized as follows:

- An accumulation of the children of families with a high socioeconomic level in accepting students to special education institutions will have a negative effect on other children, which is against equality of opportunity in education.
- It will be sufficient to form level classes for this field of education at state schools. This will also provide some savings in financial sense.
- Since children will concentrate on a single field in special education institutions, they might be poor in other fields.

**Question 4:** The answers to the question “*In your opinion, which method should be used in the education and instruction of gifted and talented children and why?*” are given in Table 4.

**Table 4. Forms of instruction considered appropriate by teachers for application to gifted and talented students.**

Instruction Technique	Class Teachers N:34	Science Teachers N:24
Research-based method	6	4
Experiment	6	2
Student-centered method	3	4
Observation	2	-
All methods	5	2
Plain narration	2	3
Question and answer	3	1
Learning by Doing and Experiencing	6	6
Problem solving	1	2

As seen in Table 4, the teachers in both branches emphasized instruction methods of identical type. Nevertheless, science and technology teachers made more emphasis on the techniques “research, experiment and learning by doing and experiencing”. Besides, it is striking that classroom teachers mentioned about more instruction techniques than science teachers did.

**Question 5:** *In your professional life, have you ever had any students whom you believed were gifted and talented? Which characteristics of them were influential on your realization of these students?*

All classroom teachers and seven science teachers in the sample stated that they had encountered students, whom they thought were gifted and talented, in their professional life. On the other hand, three science teachers expressed that they had not had any students whom they considered were gifted and talented.

The criteria used by teachers for identifying gifted and talented students are itemized below:

*Criteria used by teachers for identifying gifted and talented students:*

- Curiosity;
- Asking a high number of questions and being interested in courses;
- Displaying mature behaviors in their relationships with their friends;
- Ability to interpret the information and apply it in various cases;
- Discussing the details of the question and trying to derive meaning;
- Designing projects;
- Doing the assigned homework on time and regularly.

The teachers, who expressed that they had encountered a gifted and talented student, were asked “*Did you make anything special for him?*” during the continuation of the interview.

Only one teacher was indifferent by responding “I did not have anything to do”. On the other hand, another teacher stated “I helped him to be registered at a high school which provided special education”. Other teachers stated that they tried to provide students with assistance such as “upgrading, encouraging them to make research, making family & school administration be aware of the case, making guidance teachers be aware of the matter, and including them in social activities” in their professional life.

**Question 6:** “*In your opinion, with which instruction model should gifted and talented children be educated and do you have any information about the model used in our country?*”

The answers of teachers to the question concerned are presented in Table 2.

**Table 5. Ideas of teachers about the best instruction model for gifted and talented children.**

Education methods	Class Teachers (N =31)	Science Teachers (N =30)
Activities for developing laboratory skills	-	6
Investigation of resources	3	4
Computer-aided instruction	6	7
Attention by specialized people	3	4
Creation of special classes	4	3
Activities to encourage thinking	-	1
Registration to special education institutions	2	3
Project studies	4	1
Upgrading	9	1

As also observed in Table 5, classroom teachers mostly expressed that the performances of these children would be maximized with upgrading (9) whereas science and technology teachers mostly expressed that the performances of these children would be maximized with laboratory-aided (6) and computer-aided instruction models (7).

To the question “*How are these children educated in our country?*”

4 science and technology teachers stated that these children were educated at Guidance



and Research Centers (RAM) while only three teachers stated that these children were educated at SACs. They failed to give satisfactory answers about the purpose of education at these centers and the quality of education provided. On the other hand, other teachers expressed that these children should be educated at a separate school and that such schools were nonexistent in our country.

The classroom teachers generally stated that gifted and talented children should be raised by specially-trained teachers and at schools that provided special education. On the other hand, only one teacher stated that they could be differently grouped and educated according to class level in normal education institutions. Although three teachers expressed the name of SAC, they stated that they did not have any information about the purpose and contents of the education provided at these centers.

## Discussion

Upon the examination of Table 1, which is an indicator of a general evaluation made considering the scores obtained by teachers in the sample from the achievement test regarding the characteristics of gifted and talented children, it can be stated that classroom teachers were more successful than science and technology teachers. The majority of classroom teachers (38/55) are included above fifty points. This ratio (17/40) is rather low for science and technology teachers. 28/55 of classroom teachers and 9/40 of science and technology teachers were included at 60 points and above, which can be regarded as a quite successful level. It is considered that this difference is influenced by the fact that the model used in the education of gifted and talented children in our country is applied more efficiently at Level I of primary education than at Level II. Although the studies on the education of gifted and talented children at Level II are ongoing, the concern about the exams for transition to secondary education causes problems regarding students' attendance at SACs (Gökdere et al., 2003).

When the questions are analyzed according to the fields, the details of achievement level in Table 1 are striking. In all fields, classroom teachers are more successful than science and technology teachers. When the data in Table 2 are taken into consideration, an obvious difference is remarkable in favor of classroom teachers between the percentages of correct answers of classroom teachers and Science teachers for the questions regarding the Physical characteristics (72.7%-14.1%) and social-affective characteristics (75.2%-41.0%) of gifted and talented children. Although the percentages of correct answers by classroom teachers are higher in other fields as well, the difference is not too high. The difference in these fields is considered to be due to the difference in the opportunities of classroom teachers and science and technology teachers to observe their students.

The science and technology teachers had rather low achievement levels in the test that was prepared regarding the characteristics of gifted and talented children. The greatest indicator of this is that more than half of the teachers failed to exceed the lowest limit score of fifty out of a hundred. When the achievement levels of teachers are considered according to different characteristic groups, low achievement percentages are striking in the questions concerning social-affective characteristics (41.0%) and physical characteristics of gifted and talented children (14.1%). Considering this, it can be stated that it will be impossible for the science teachers in the sample to fulfill effectively the missions falling on them in the process for identification of gifted and talented children. In addition, the low achievement level in the questions with respect to the teacher characteristics can be regarded as an indicator of the unawareness of teachers of their roles in the processes for the education of these children. It is considered that this low achievement level is due to the failure of including the subject of education of gifted and talented children, although slightly, in pre-service and in-service training processes. Until 2009, a teacher, having graduated from the undergraduate program of teaching, had graduated

without receiving any courses concerning “the concept of giftedness and the characteristics of gifted and talented children” (HEC, 1998).

According to the overwhelming majority of teachers included in the sample evaluated a gifted and talented child by taking the characteristics of a brilliant child into consideration. This is thought to be due to the difference in some behaviors of and the attitude assumed by a brilliant child towards events in comparison to his peers.

Even though there is parallelism between classroom teachers and Science and Technology teachers about the identification of gifted and talented children, both groups contain teachers with two different opinions. Some teachers advocated that the high abilities of children should be identified in pre-school period and that creativity in playing medium and social developments could be followed better in this period. On the other hand, some teachers based this on the fact that social interests might change as of Grades 3 and 4, that abstract thinking could be clearer, that original and creative ideas could only be possible in this period, that the education provided in pre-school period would manipulate children to playing, and that when school period arrived, a gifted and talented child might be hebetated. In literature (Richert, 1990; Chamberlin et al., 2007), it is stressed that the existing abilities of gifted and talented students should definitely be determined in pre-school period in order to obtain maximum efficiency from these students.

The overwhelming majority of teachers believe that special education is necessary for gifted and talented children. Although they lack sufficient knowledge about why this education is necessary, the reasons they emphasized are acceptable reasons. Furthermore, the expressions of some teachers about the fact that special education is unnecessary for gifted and talented children and that this would not comply with equality of opportunity in education appear as negative results. Moreover, the data that this rate is slightly higher in science and technology teachers is outstanding. In her study, Akarsu (1995) stated that the idea of equality of opportunity in education is one of the important obstacles before the development of education of gifted and talented children in many countries.

All teachers had encountered students, whom they considered were gifted and talented, throughout their professional life and they mostly used the physical characteristics and academic achievement level of students as the basic criteria in their decision concerned. However, it is known that some of the gifted and talented children fail to display this activity and academic achievement and suffer from the problem of disharmony (Salend, 1998; Feldhusen, 1986; Braggett, 1990). The fact that no data on the criterion of disharmony were obtained from the two teacher groups leads us to conclude that the teachers evaluated the students only with terminal behaviors and that they behaved with prejudice. In their research, Gökdere and Çepni (2005) stress that the identification system in our country is effective in identifying the gifted and talented children of families with a high social status and that the teachers do not adequately fulfill the missions falling on them in this identification process.

Teachers are of the opinion that methods of experiment-research, asking questions, learning by doing and experiencing and problem solving will largely be influential on the education of gifted and talented children. It is of great importance that teachers and administrators know philosophical approaches, instruction methods and techniques, and their reflections on learning media (Karnes, 2000; Chan, 2001; Gökdere, 2004). In the process for instruction, they have to be informed about the characteristics and education of gifted and talented children and behave carefully. In this context, the emphasis by teachers on research-based methods and techniques is regarded as positive data in terms of the importance that teachers attach to research in the education of gifted and talented children.

Many of the teachers included in the sample highly advocate the idea that gifted and talented children should be educated with special education programs. The unawareness of the overwhelming majority of the teachers of the model and functions of SACs, implemented in

our country since 1999, despite these ideas is an essential point to be dwelt upon. The education provided at science and art centers is a program called Afternoon Enrichment Course, a program implemented in many countries such as Israel and the U.S.A. (Burg, 1992). The basic purpose of this program is to develop the potential abilities of the child through his participation in enrichment activities during the time remaining from his normal school. As it will be observed, the students attending these centers are not disconnected from school. In other words, the student carries on his education within the triangle of his home, his school, and the SAC. Therefore, good cooperation is required between his family, his teacher at school, and his teachers at the SAC (Gökdere et al., 2003).

## Conclusions

The low achievement rates of science and technology teachers in the achievement test are considered to be due to the fact that classroom teachers perform more lessons with these students than science teachers do.

In observation studies in the literature, it is expressed that there is a direct proportion between observation duration and quality of the data obtained with respect to the behaviors observed (Bell, 1989).

As a result of the regulation in education programs for teachers, the course “special education”, a course including the subject of education of gifted and talented children as well, is included in all teaching programs. When this shortcoming in education programs for teachers is taken into consideration, these low achievements are not abnormal results.

When the information included in literature is taken into consideration, we may conclude that some teachers in our sample lack adequate knowledge about the time of identifying gifted and talented children.

The presence of individuals with a negative opinion about special education among the teachers in our sample does not constitute positive data in terms of the future of this field of education in our country.

In order for teachers to perform their duties effectively in this process, they need to get rid of their prejudices about students besides improving their knowledge of this field (Feldhusen, 1997). The determination of the factor of prejudice in teachers included in our study as well is in good agreement with the literature.

The lack of sufficient emphasis on the techniques of “Student-centered method and Problem solving”, which consider individual differences and enable to evaluate student performance individually, in the two teacher groups makes us conclude that teachers are not adequately aware of the importance of individual techniques in the education of gifted and talented children.

In order to attain the cooperation and harmony concerned, the teachers have to recognize these centers and be in cooperation with the teachers at these centers. Otherwise, the student will act indecisively within this triangle and be unsuccessful. When the levels of knowledge of teachers about these centers and the education of gifted and talented children in the present case are taken into consideration, it is probable that gifted and talented students encounter many problems in the process for education.

## Recommendations

Considering the education of gifted and talented children and the role of their teachers in the process for identification of these students, due importance should be attached to raising qualified staff as much as it is attached to the student and the program in the education of gifted and talented children.

Great emphasis should be made on the characteristics and education of gifted and tal-

ented children in the course of special education that is included in the seventh semester of all programs in the faculties of education and the students should be provided with the opportunity of practicing at SACs.

Requirement-based in-service training seminars should be held with the purpose of informing the teachers on duty about the education and characteristics of gifted and talented children. In these seminars, the branches of teachers and their levels of readiness should be taken into consideration; assessment should be made at the end of seminars; and the teachers should be awarded with proficiency certificates according to the results of assessments.

In order to obtain maximum efficiency from gifted and talented individuals, these individuals should be realized at the earliest possible age. In this context, great responsibilities fall on families and teachers. The awareness of families and teachers of their responsibilities should be ensured through the informative seminars to be held (Sayler, 1994).

Teachers should from time to time be encouraged to identify the characteristics of students and to raise and renew themselves regarding student identification methods so that teachers will be able to be aware of not only the gifted and talented students, who display positive characteristics, but also the gifted and talented students, who display behaviors such as disharmony and lack of attention.

The teachers at the schools of the students should be provided to know SACs and they have to be made to believe that they are a part of the education process. Only in this way, it will be possible to prevent possible disharmony and problems to occur between the SACs of the students and their normal schools.

## References

- Akarsu, F., (1995). Problems of the Gifted Education in Turkey. *Journal of National Education*, 121, 49-50.
- Barger, R.H., (2009). Gifted, talented and high achieving. *Teaching Children Mathematics*, 16, 3, 154-161.
- Bassey, M., (1999). *Case Study Research in Educational Settings*, Open University Press Buckingham, Philadelphia.
- Bell, J., (1989). *Doing Your Research Project: A Guide for First Time Researches in Education and Social Science*. Open University Press, Philadelphia.
- Betts, G., (1986). In *The Autonomous Learner for the Gifted and Talented*, Mansfield Center, CT: *Creative Learning Press*, 27-56. Boston: Allyn and Bacon.
- Braggett, E. J., (1990). *Gifted Children: Educating Children With Special Needs*, Editors: Ashman, A. ve Elkins, J. Sydney: Prentice Hall.
- Callahan. C.M., Lundberg. A.C., Hunsaker. S.L (1993). The development of Scale for Evaluation of Gifted Identification Instruments (SEGII). *Gifted Child Quarterly*, 37 (3).
- Chamberlin, S.A., Buchanan, M., Vercimak, D., (2007). Serving Twice-Exceptional Preschoolers: Blending Gifted Education and Early Childhood Special Education Practices in Assessment and Program Planning. *Journal for the Education of the Gifted*, 30, 372-394.
- Chan, D. W., (2001). Characteristics and Competencies of Teachers of Gifted Learners: The Hong Kong Teacher Perspective Teachers Of Gifted Children China Hong Kong. *Roeper Review*, 23, 4, 197-202.
- Cohen, L. ve Manion, L., (1989). *Research Methods in Education*. New York Routledge.

Croft, J.L., (2003). *Teachers of Gifted; Gifted Teachers, Handbook of Gifted Education, Third edition*. Boston: Allyn and Bacon, 558-571.

Davis, D. A., & Rimm, S. B. (1994). *Education of the Gifted and Talented (3rd ed.)*. Englewood Cliffs, NJ, US: Prentice-Hall, Inc

Ellen, W., (1998). *Uncommon Talents: Gifted Children, Prodigies and Savants*, (<http://www.ucd.ie/art-spgs/langimp/savants.pdf>), Scientific American Present.

Enç, M., (1979). *High Brain Force*. Ankara University Press. Ankara, Turkey.

Feldhusen, J.F., (1986). *A Conception of Giftedness: Conception of Giftedness, Conception of Giftedness*. New York: Cambridge University Press, 112-128.

Feldhusen, J.F., (1997). *Education Teachers for Work with Talented Youth*, Handbook of Gifted Education, Second Edition, Boston: (pp: 547-552). Allyn ve Bacon.

Gallagher, J. (1998). Accountability for Gifted Students. *Phi Delta Kappan*, 79, 10, 739-742.

Gökdere, M., Çepni, S., (2005). Profýles of the Gýfted Students in Turkey. *The New Education Review*, 6, 5, 87-99.

Gökdere, M., Küçük, M., ve Çepni, S., (2003). Gifted Science Education in Turkey: Gifted Teachers' Selection, Perspectives and Needs. *Asia-Pacific Forum on Science Learning and Teaching*, 4, 2, 5.

Hansen, J.B. ve Feldhusen, J.F., (1994). Comparison of Trained and Untrained Teachers of Gifted Student. *Gifted Child Quarterly*, 38, 3, 115-121.

Hargrove, K., (1999). The Gifts of the 20<sup>th</sup> Century, *Gifted Child Today*, 22, 6, 38-39.

HEC, (1998). *Higher Education Counsel, Handbook of Lesson Contents*. Ankara.

Journal of Papers, (2001). *Science and Art Centers Directive*, Number: 2530, Volume: 64.

Kaplan, S (2009). There is a single curriculum for the Gifted. *Gifted Child Quarterly*, 53, 4, 257-258.

Karnes, F.A., Stephens, K.R. ve Whorton, J.E. (2000). Certification and Specialized Competencies for Teachers in Gifted Education Programs. *Roepers Review*, 22, 3, 201-205.

Lubart, T.I. (1994). Creativity in the development of scientific giftedness: Educational implications. *Roepers Review*, 21, 54-58.

Maryland, S.P., (1972). *Education of Gifted and Talented*. Washington D.C: US Office of Education.

Mason, E.J. ve Mönks, J.F. (2002). Developmental Psychology and Giftedness: Theories and Research. In: *International Handbook of Giftedness and Talent*, Second Edition, Elsevier Science, Oxford, UK, 141-156.

SCPC, (2003). *Prefer Manual of the Student Selection and Placement Center*.

Renzulli, J. (1985). Are Teacher of Gifted Specialist? A Land Mark Decision on Employment Practices in Special Education for Gifted. *Gifted Child Quarterly*, 29, 24-29.

Renzulli, J.S. ve Reis, S.M. (1986). *The Schoolwide Enrichment Model: A Comprehensive Plan for Educational Excellence*. Mansfield Center, CT: Creative Learning Press.

Rogers, K.B., (1989). Training Teachers of Gifted: What do They Need to Know? *Roeper Review*, 11, 3, 145-150.

Sayler, M. (1994). *Raising Champions; A Parents Guide for Nurturing Their Gifted Children*, Austing. Texas Association for the Gifted and Talented.

Sisk, D., (2009). The regular Classroom Teacher can «Go It Alone». *Gifted Child Quarterly*. Vol: 53, Issue: 4, 269-271.

Tannenbaum, J.A. (2002). A History of Giftedness in School and Society. In: *International Handbook of Giftedness and Talent*, Second Edition, Elsevier Science, Oxford, UK, 3-23.

VanTassel-Baska, J. (1998). The Development of Academic Talent. *Phi Delta Kappan*, 79, 10, 78-82.

Wood, S. ve Leadbeater, P. (1986). Stages of Entry for Target Groups Participating in Gifted Program In-service and Staff Development. *Gifted Child Quarterly*, 30, 3, 127-130.

Yin, K.R. (1994). *Case Study Research Design and Methods*, Second Edition. Sage Publication, London New Delphi.

*Advised by Naglis Švickus, SMC "Scientia Educologica", Lithuania*

**Murat Gokdere**

Assoc. Prof. Dr., Head of Primary Department, Amasya University, Education  
Faculty, 05100 Amasya, Turkey.  
E-mail: mgokdere@yahoo.com  
Website: <http://www.muratgokdere.net>