

Assessment of in-service training program of support education room awareness course for gifted and talented students organized for classroom teachers

Şener Şentürk ¹, İdil Kefeli ², Mehmet Akif Bircan ³

¹ Faculty of Education, Ondokuz Mayıs University, Samsun, Turkey; ² Science and Art Centre, Samsun, Turkey; ³ Faculty of Education, Sivas Cumhuriyet University, Sivas, Turkey

ARTICLE HISTORY

Received: 07.06.2022

Received in revised form: 14.09.2022

Accepted: 24.09.2022

KEYWORDS

Gifted and talented students

In-service training

Classroom teacher

CORRESPONDENCE

Şener Şentürk,
sener.senturk@omu.edu.tr

ABSTRACT

This research has been performed in order to determine the effect of an in-service training program for classroom teachers pertaining to the education of gifted and talented students on the level of knowledge of teachers about gifted and talented persons and their views on the in-service training program. The sample group of the research consists of 34 primary school classroom teachers. During the research, a total of eighteen-hour in-service training program was applied to the teachers for three days. The research data were collected by the gifted and talented knowledge test and the end-of-program teacher opinion form. As a result of the research, it was determined that the program applied had a significant positive effect on the level of knowledge of teachers about gifted and talented students. In addition, teachers participating in the in-service training program expressed a positive opinion regarding the content of the training, the quality of the trainers and its contribution to their professional development.

Introduction

At the present time, there is a huge competition between countries in the fields of science, industry, and technology. In this competitive environment, countries are making reforms on their education systems by allocating large financial resources in order to be in the leading position in these areas. These reforms cover establishing curriculums, teacher training and development systems, and systems that will educate individuals as per the specific needs of the age and personal characteristics. The discovery of gifted and talented individuals, who have especially innate potential, even though they differ from society to society, who have a certain ratio, and who hold an outstanding and strategic value, their correct education provides great benefits in terms of the individual, the country to which s/he belongs and the humanity (Şentürk and Kefeli, 2019). For the education of gifted and talented, although Turkey had a remarkable infrastructure such as the Gulamhane during the Seljuk period and the Enderun during the Ottomans period, until the early 2000s, the education of gifted and talented has been a neglected area (Şentürk, 2019). From this period forward, noteworthy regulations have been carried out in many areas from the identification of gifted and talented to their education, from the selection of teachers to

work in the field to the education environment. One of these regulations is about the identification of gifted and talented. These children, who have been considered by many concepts such as overwise, superior talent, special talent, have been identified as gifted and talented, and a gifted and talented individual; has been identified as an individual who learns faster than his peers, has creativity, art, leadership capacity, has special academic skills, understands abstract ideas, likes to act independently in her/his areas of interest and performs at a high level in these fields (Şentürk, 2018; MEB, 2019). It is observed that gifted and talented children (despite the heterogeneous structure of the group) generally exhibit different development when compared to their peers since infancy, unique development features such as strong memory, fast learning ability, over-developed sense of compassion and justice, a different sense of humor and extraordinary imagination (Şentürk, 2018; Sak, 2010). Due to the fact that they have different developmental characteristics from their peers, gifted and talented individuals are treated differently by the family members at home, teachers, and peers in the classroom environment, the community in their living environment, and also incorrect or inadequate information, unusual myths are proposed on the subject (Clark, 2002). This makes the lives of gifted and talented children more difficult. To provide quality education to gifted and talented children in line with their individual development characteristics and abilities, it is first necessary to identify, diagnose those who are gifted and talented and provide adequate guidance. Following the guidance, different methods and strategies should be applied in line with the capabilities of the children in their educational environments. It is observed that children who do not get adequate support in inclusive environments in formal schools are not able to perform studies with the quality expected from them (MEB, 2019). To prevent this situation, Science Art Centers (BİLSEM), which provide support education services outside the school hours, has been formed under the Ministry of National Education, Special Education, and Guidance Services. While gifted and talented children identified hereby are enabled to discover and develop their talents, the quality is left to the knowledge and experience of classroom teachers in day schools where children study. According to Hansen and Feldhusen (1994), teachers of gifted and talented students are more sensitive to these student's needs when they receive in-service training; they use more teaching strategies and tries to provide more opportunities for students' success. Teachers of gifted and talented who must spend most of their education in their normal education classes in their schools should have professional knowledge and skills in the education of those who are gifted and talented. On the other hand, when the researches on this subject are examined; there can be found some findings that the quality and number of in-service training received by teachers is not sufficient (Tortop & Dinçer, 2016). In classroom teaching programs in Turkey, it is seen that the training covering a two-hour period is not sufficient at the undergraduate level (YÖK, 2019). Based on the fact that the gifted and talented can be encountered in any region of society at any level of the society, it should also be noted that increasing the knowledge of classroom teachers on the subject is of great significance in identifying and guiding these children. In their research, Altıntaş and Özdemir (2014) demonstrated that classroom teachers do not have knowledge about gifted and talented children, they are not aware of the institutions and the models and programs applied for them, and that they feel the deficiency of an in-service training about gifted and talented children. In the research carried out by Serin and Korkmaz (2014), it was found that classroom teachers give priority to the participation of in-service training on preparing individual learning plans for gifted and talented students. In the research conducted by Ergin, Akseki, and Deniz (2012), it was found that the classroom teachers stated that they wanted to receive in-service training on gifted and talented students. When these findings and the current practices as to teacher training in Turkey (in-service training, courses, seminars, etc.) are taken into consideration together; it is possible to suggest that the level of knowledge of the classroom teachers about the gifted and talented individuals is not sufficient (Şahin and Kargın, 2013).

Purpose of the research

There are studies on the in-service training of teachers of gifted and talented students. When international and national studies are examined, the following researches regarding the in-service training programs held for teachers about gifted and talented are drawing attention. Mirace (2016) conducted in order to determine the effect of in-service training program on gifted and talented on teachers' attitudes towards gifted and talented students and their education; Lassig (2015) conducted in order to determine the effects of professional development programs and school culture on teachers' attitudes towards gifted and talented students; Cashion and Sullenger (2009) conducted researches in order to examine the effects of gifted and talented education programs for teachers in the summer term. Some of the researches of which details given below were also carried out: by Şahin and Kargın (2013), determination of the effectiveness of a program applied regarding the identification of gifted and talented by the teachers who instruct classes in general education schools and their opinions about the program; by Tortop (2014), determining the effectiveness of an in-service training program held for classroom teachers, preschool teachers, mathematics and science teachers; by Gökdere and Çepni (2005), assessment of the effectiveness of an in-service training seminar held for physics, chemistry and biology teachers of gifted and talented students. Apart from these studies, no studies in this field have been encountered at the national level. For this reason, it is important to evaluate the effectiveness of an in-service training program to be held on gifted and talented students. From this point of view, it has been aimed to assess the effectiveness of the in-service training program for gifted and talented students to be held for the classroom teachers. In the study, the answers to the questions have been sought, such as "What is the effectiveness of the in-service training program for gifted and talented students" towards classroom teachers? and "what are the opinions of the teachers on the program?".

Method

This section includes information about the research model, study sample group, data collection tool, preparation of educational materials, analysis of data and information regarding the implementation.

In order to determine the effect of the program applied in the research on the level of knowledge of teachers about gifted and talented, the one group pretest-posttest design, which is one of the weak experimental designs, was used. In this design, the effect of the experimental process is determined by the study done on a single group. (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, and Demirel, 2011). Within this framework, the gifted and talented knowledge test was applied to the study sample group before and after the application.

In the study, simultaneous design was used, which is one of the mixed method research designs in which the quantitative and qualitative methods were used together in determining the opinions of the participants regarding the strengths and limitations of the program. Mixed method research is defined by Yıldırım and Şimşek (2013) as research in which qualitative and quantitative methods are used together in order to examine the research problem comprehensively in a multi-dimensional manner. Simultaneous design enables the use of qualitative data to validate quantitative data. Based on this information, a data collection tool which includes a 5-point likert-type questionnaire consisting of five questions for the study sample group and an open-ended question was applied at the end of the program.

Study group

Study sample group of the research consists of 34 classroom teachers participating in the in-service training program of the “Support Education Room Awareness Course for Gifted and Talented Students” held by Tokat Provincial Directorate of National Education in the year 2019. Determining the teachers has been based on voluntariness. While forming the research sample group, it was paid attention that the teachers did not have any training on the subject for a week or more.

The selection of the participants impartially and their voluntary involvement in the research also strengthened the external validity of the research. The fact that the research program was prepared and presented by the researchers, the in-person involvement of researchers in the application of measurement tools to the participants, the teachers have not received any training on the subject, these all have increased the internal validity of the research.

Implementation

The research was performed in Tokat province in 2018-2019 academic year. The training took 18 hours in total for three days. During the implementation, the Support Training Room Awareness Course standard program for Gifted and Talented Students drafted by the Ministry of National Education was applied. Before and after the program, the gifted and talented knowledge test for the study sample group; at the end of the program, the end-of-program teacher opinion form was applied. The chart regarding the implementation is available in Table 1.

Table 1 Implementation schedule

Before the program		Subjects	Duration	End of the program
The gifted and talented knowledge test	1 st day	Studies Carried out by the Ministry in the Field of Education of Gifted and Talented Individuals Definition of gifted and talented, Characteristics of Gifted and Talented Children Private Education and Education of Gifted and Talented Individuals Guidance of Gifted and Talented Individuals Education Services Provided in Support Education Rooms	6 hours	The gifted and talented knowledge test The end-of- program teacher opinion form
	2 nd day	Basic Dimensions of Creativity and Improvement Instructional Strategies That Can Be Used in Instructional Processes (Group Study)	6 hours	
	3 rd day	Activities That Can Be Used in Instructional Processes (Group Work) Preparing IEP	6 hours	

Data collection tools

Gifted and talented achievement test (ÖYBASAT)

Gifted and talented achievement test (ÖYBASAT) was developed by Şentürk and Kalem (2019) in order to measure the knowledge of adults on issues pertaining to the gifted and talented children. The multiple-choice test, which consists of 20 items, covers the concept of intelligence, the characteristics and identification process of gifted and talented, education strategies for gifted and talented and parent attitudes. In the application of the test, the assessment was performed by entering the number "1" for the correct answers and "0" for the wrong answers. The highest score that can be obtained from the test is 20. The difficulty index of the test was calculated as 0.59 and the discrimination index was 0.50. The KR-20 value for the reliability of the test is 0,70.

The end-of-program teacher opinion form

The end-of-program teacher opinion form was composed of the questionnaire section including five types of questions and designed as a five-point Likert and a structured form with an open-ended question.

In the form in which the specialist opinion was obtained; the questions such as to what extent the program's achievements have been reached, criticism and suggestions regarding the program were asked. Likert items were graded as 5 "strongly agree", 4 "partially agree", 3 "agree", 2 "partially disagree" and 1 "strongly disagree". The quinary (five-point) scale ranges for the analysis and interpretation of the data are determined as equal ranges in the ratio of 0.80 ($5-1 = 4 \text{ } 4/5 = 0.80$) as follows:

Strongly agree	: 4.20 – 5.00
Partially agree	: 3.40 – 4.19
Agree	: 2.60 – 3.39
Partially disagree	: 1.80 – 2.59
Strongly disagree	: 1.00 – 1.79

Analysis of data

The data obtained from the knowledge test in the study were analyzed using the version 21.0 of the SPSS package program. In so far as the test scores of the teachers who participated in the analysis showed the characteristics of normal distribution, paired sample t-test was used in comparing the difference between the pretest-posttest scores. Descriptive statistics regarding the pretest-posttest scores are presented in Table 2.

Table 2 Descriptive statistics of the Information Test

	N	Min	Max	X	Skw.	Krt.
Pretest	34	25.00	80.00	55.58	-.68	1.31
Posttest	34	60.00	100.00	85.14	-.79	1.71

Furthermore, the data obtained from the end-of-program teacher opinion form were presented as a percentage using the excel program. In order to support this data, the statements presented by teachers in the form are given with quotations.

Results

Findings related to the first sub-problem

The first sub-problem of the study was determined as "Is there a significant difference between the pretest-posttest point averages of the classroom teachers on gifted and talented knowledge test?". In order to find an answer to this sub-problem, knowledge test was applied to teachers in the experimental group before and after the application. Paired samples t-test outcomes concerning whether the scores of teachers before and after the application differ significantly are presented in Table 3.

Table 3 Paired samples t-test statistics

Measurement	N	X	S	d	t	p
Pretest	34	55.58	12.35	16.06	10.72	.00
Posttest	34	85.14	8.02			

The results of the analysis demonstrate that there is a significant difference between the pretest-posttest scores of the teachers who participated in the research from the knowledge test ($t=10.72$, $p<.05$). When the average scores obtained from the tests are examined, it is seen that the posttest average ($X=85.14$) is higher than the pre-test average ($X=55.58$). According to these results, it can be suggested that the in-service training program has a significant impact on increasing the success of the experimental group teachers in the knowledge test.

Findings related to the second sub-problem

The second sub-problem of the research was determined as "What are the opinions of classroom teachers on the in-service curriculum?" In order to find an answer to this sub-problem, all of the teachers participating in the study answered the end-of-program teacher opinion form. The data obtained from the end-of-program teacher opinion form are given below.

Table 4 The statistics of the end-of-program teacher evaluation form

Statements	f	X
The program made me know about gifted and talented	34	4.70
The program is sufficient in terms of its content	34	4.23
The program is of the appropriate length in terms of duration	34	3.17
I think educators are competent on their subjects	34	4.70
I am glad that I involved in the program	34	4.70

When the answers given by the teachers to the end-of-program teacher opinion form are analyzed, it is observed that the teachers strongly agree with the statement that the program is informative ($X=4.70$). In addition, the following statements stated by the teachers in the open-ended question section in the form support this opinion:

S2: "The training provided was very beneficial. It was something I was short of."

S19: "It was a very useful program. I have been informed of many areas that I do not know."

S24: "We experienced a useful, informative, thought-provoking and enjoyable course."

S28: "It was very useful. I learned the information in two days, which I could not get in a year."

When the answers provided by the teachers in the end-of-program teacher opinion form are analyzed, it is observed that the teachers highly agree with the statement that the program is sufficient in terms of its content ($X=4.70$). Furthermore, the following statements stated by the teachers in the open-ended question section in the form support this opinion:

S4: *"They ensured the permanence of our learning, in so far as our instructors enriched the course program with the help of more effective and more permanent activities."*

S7: *"The program is sufficient in terms of its content..."*

When the answers provided by the teachers in the end-of-program teacher opinion form are analyzed, it is observed that the teachers do not agree with the statement that the program is sufficient in terms of duration ($X=3.17$). Furthermore, the following statements stated by the teachers in the open-ended question section in the form support this opinion:

S29: *"Should be able to extend over a wider time."*

S30: *"The duration could be extended."*

S18: *"It would be better if the program extended over several days rather than two days."*

S7: *"I'd like to take this training longer."*

When the answers provided by the teachers in the end-of-program teacher opinion form are analyzed, it is observed that the teachers strongly agree with the statement that I think the educators are competent at their subjects ($X=4.70$). Furthermore, the following statements stated by the teachers in the open-ended question section in the form support this opinion:

S4: *"They ensured the permanence of our learning, in so far as our instructors enriched the course program with the help of more effective and more permanent activities."*

S12: *"I benefited a lot from the training. The people in charge are competent in their field. Their interaction with the trainees is great. Satisfactory answers were given to the questions."*

S16: *"The fact that the educators are equipped, and the participating trainees are willing ensured the satisfactory implementation of the program."*

S26: *"I would like to thank our respectable educators for making the program extremely interesting and enjoyable in so far as their turn of phrase and attitudes."*

When the answers provided by the teachers in the end-of-program teacher opinion form are analyzed, it is observed that the teachers are highly agree with the statement that I am pleased to participate in the program ($X=4.70$). Furthermore, the following statements stated by the teachers in the open-ended question section in the form support this opinion:

S3: *"So glad we had you, so glad we attended this training."*

S11: *"It was a great program. I think it is very useful. I would like it to be repeated."*

S12: *"I benefited a lot from the training."*

S16: *"The program was very good."*

Conclusions and discussion

The achievement of any reform and improvement efforts in the education system, introduced in the areas such as curriculum, materials, technology, etc., and especially education policies, depends on the professional competence of teachers in practice (MEB, 2018). In the teacher training strategy document, it was underlined that ensuring the professional development of existing teachers in line with shifting requirements should be one of the priority issues in education policies. In this document, one of the three main objectives has been determined to make the personal and professional development of teachers permanent (MEB, 2017). In-service training programs are of importance in order to make teachers' professional and personal

development permanent. However, in order for these programs to have the required effect, many factors, from the content of the training to the quality of the educators, should be taken into account. In addition, in-service training programs to be implemented should be analyzed and their contents should be determined.

It is one of the priority policies of the Ministry of National Education to provide an educational content and environment appropriate for the talents of our gifted and talented children. Following the development processes of our gifted and talented students in all territories of our country by supporting them is going to enable them to create added value both in their personal lives and in the development of our country in the long-term (MEB, 2019). Gifted and talented children are potentially different from other classmates in terms of learning speed, learning depth, and interests that they have. Therefore, teachers should have a basic knowledge about these children in particular, regardless of their position, in order to supply a full education service to gifted and talented children (Dağlıoğlu, 2010). On the other hand, TÜBİTAK (2013) states that the quality and quantity of educators who can work with gifted and talented students are unsatisfying. For this reason, it is necessary to set up trainings for teachers regarding gifted and talented and to examine the impacts of these trainings. In this direction, there are research and their outcomes that examine in-service training programs and their effects on gifted and talented in the literature.

When the results of this research are examined, it can be suggested that the in-service training program organized for classroom teachers has a positive impact on the level of knowledge of teachers about gifted and talented. The result of this research is in line with the results of the research conducted by Şahin and Kargın (2013). In the research performed by Şahin and Kargın, a training program was applied on the determination of gifted and talented students for the class teachers who instruct the classes in general education schools, and it was concluded that the level of knowledge of teachers improved significantly in a positive manner. Tortop (2014) found that the in-service training program on gifted and talented increases the mentorship and self-sufficiency of participating teachers. Also, majority of the teachers participating in this training expressed their opinions that are supporting these findings. Levent, Cengizhan and Avcu (2018) suggest that there are findings in recent years that classroom teachers who have been trained on the nature and requirements of gifted and talented students and who have been trained on teaching and guidance are more capable of understanding and fulfilling the needs of students. There are differences between the attitudes of teachers who have been trained for the education of gifted and talented and those who have not, in terms of their teaching styles and strategies. For instance, teachers who have not been trained for the education of gifted and talented tend to be more uninterested and intolerant to students having these characteristics (Jacobs, 1972; Hanninen, 1988; Hansen & Feldhusen, 1994; Tomlinson, Tomchin, Callahan, Adams, Pizzat-Tinnin, Cunningham, Moore, Lutz, Roberson, Eiss, Landrum, Hunsaker and Imbeau, 1994; transf. Levent, 2011). Mirace (2016) found that in-service training programs held regarding gifted and talented positively affect teachers' attitudes towards gifted and talented and their education. Implementing training programs concerning gifted and talented children will enable teachers to identify gifted and talented students in their class, to be aware of in-class and out-of-school education opportunities and feel themselves competent and confident in this regard (Baykoç and Özdemir, 2016).

The majority of the teachers who involved in the research expressed a positive opinion about the content of the training and the competence of the trainers. In the research conducted by Kaplan-Sayı (2018) in order to determine the opinions of the teachers regarding the training program implemented for the education of gifted and talented children, it was found that the participants

generally expressed a positive opinion about the content of the training and the quality of the trainers. Moreover, a great majority of teachers participating in the research stated that the training program had a positive impact on their professional development. All the teachers who participated in the research carried out by Levent, Cengizhan and Avcu (2018) expressed their views that the training positively contributed to their personal development. Considering the limitations of the program, teachers stated that the duration of the program was not sufficient. In many studies supporting this finding pertaining to the duration of training, there are findings as to the duration of training should be longer (Gökdere, 2004; Gökdere & Çepni, 2005; Kontaş, 2009; Şahin & Kargın, 2013; Kaplan-Sayı, 2018). Long-term trainings not only make teachers internalize the subject, but also make learning process more durable. On the other side, spending long time on training might decrease the ratio of participation in training or decrease the effectiveness of participation as well (Kaplan-Sayı, 2018).

In conclusion, it has been obtained that the in-service training program significantly increased the level of knowledge of classroom teachers towards gifted and talented positively. Also, the implemented program has been considered as sufficient by the teachers in terms of content, the quality of the educators and the content of the training, as not sufficient in terms of duration. In line with these findings, the following suggestions can be made.

- 1- More in-service training programs for classroom teachers should be implemented on gifted and talented and their results should be assessed.
- 2- The duration of the in-service training programs implemented for classroom teachers on gifted and talented should be extended and their impacts should be examined.
- 3- Courses should be included in classroom teacher undergraduate programs on gifted and talented.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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