

A Meta-Synthesis of Teacher Training Studies in the Focus of Gifted Education

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Abstract

This research aims to find out the current situation of the articles in terms of teacher training in gifted and talented education. The key words used are as follows: “gifted education”, “teacher training”, “teacher education” and limited to publications between 2000-2020. In the research, google scholar, TUBITAK ULAKBIM Dergipark, Council of Higher Education Thesis Center, ERIC were used as data base of this research. The researches which are inaccessible were left out of the scope. Each of the studies was examined according to aim, sample, methodology, and results using content analysis technique. This research is a meta-synthesis study. Four master and five doctorate dissertations, 21 articles, 30 in total, were included in the analysis. An extensive literature review was the focus of this research in order to access all the researches including the defined key words. At the end of the research, some suggestions were presented related to the conclusions.

Keywords: Metasynthesis, Teacher training, Gifted education

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INTRODUCTION

Teachers are truly basic components in gifted and talented education. Their methodologies towards gifted education are influential in contributing to the gifted education (Lassig, 2003; McCoach & Siegle, 2007). Teaching requires teachers to be competent in terms of the knowledge about their field, pedagogical and current developments in their field. For this reason, it is important that both teacher candidates and teachers have these knowledge and skills and implement them on practice. Indeed, it is stated that the main problem of teacher education is not passing the theoretical knowledge and skills gained in pre-service period to practice (Darling-Hammond & Bransford, 2005; Hammerness, 2006; Korthagen, 2011).

There are gifted and talented children are in both special and general classrooms (Braggett & Moltzen, 2000; Taylor & Milton, 2006), so educators need to develop and apply appropriate educational practices for these students in normal classes. The professional competencies and personality traits of the teacher have impacts on the student's academic, cognitive and affective development (Ford, Trotman & Frazier, 2001). Webb, Gore, Amend & DeVries (2007) stated that inadequate understanding, ambivalence, and low priority for gifted children in public and private schools have cultivated a climate where both the academic and socio emotional requirements are neglected. Appropriate attitudes or dispositions can be learned with exposure to research-based concepts, ideas, theories, and issues surrounding giftedness.

The absence of priority given to the learning needs of gifted learners is accorded at the pre-service level of teacher education. Hattie (2003, 2009) reported that teachers are the most significant school-based effect on the student accomplishment, this may suggest a need for bigger attention in teacher preparation, both in-service and pre-service, to meet student abilities.

Cropley & McLeod (1986) clarified the individual characteristics, knowledge, and special skills of the ideal teacher for the gifted, as well as the significance of teacher training. In-service training produced more positive attitudes towards both gifted children and educational programs. It might also enhance teachers' own self-concept and perceived self-competence to a point where they would feel sufficiently confident to become actively engaged in promoting talents (McLeod & Cropley, 1989).

Since the aim of the research focused on gifted education and teacher training, the research was shaped within this scope. Answers to the following questions were sought in the related researches obtained from databases:

1. What goals are aimed to be achieved?
2. Which subject areas are discussed?
3. Which methods have been used?
4. Which sample groups are preferred?
5. Which data collection tools were used?
6. Which educational practices have been used?
7. What kind of results have been achieved?

Importance of Research

As a result of this research, in which subjects, for which purposes the studies conducted in the field of teacher education in the gifted education, what methods were used and which process was followed, the similarities and differences between the applications and the results obtained will be explained in detail. Therefore, it will shed light on those who will conduct research in this field.

Instead of reading 30 studies individually, researchers will be able to read this article to see what trend is in general and to better orientate their own studies. In addition, thanks to this article, researchers will be able to see which subjects have been studied before, thus preventing the repetition of the same kind of studies.

Limitations of the Study

This research was oriented with the researches between 2000-2020 using both Turkish and English keywords (“gifted education”, “teacher training”, “teacher education”). It is limited to these databases: Google scholar, TUBITAK ULAKBIM Dergipark, Council of Higher Education Thesis Center, ERIC. The study is also limited to accessible researches.

METHOD

Research Design

This research is a meta-synthesis study which is included in content analysis studies. Meta-synthesis is the interpretation and synthesis of studies on the same subject by creating themes or main templates. The aim of this is to provide a qualitative understanding of the studies carried out in a specific field with meta-synthesis researches and to reveal the similarities and differences comparatively and to provide a rich reference source for researchers, teachers and other interested persons who do not have access to all studies (Çalık & Sözbilir, 2014). Meta-synthesis is a design of study for reviewing and interpreting the findings of multiple studies (Finfgeld, 2003). In this research, meta-synthesis study was used since it was aimed to analyze teacher trainings in the field of gifted education with qualitative methods.

Coding Process

Firstly, the relevant sections of each study included in the study were read in detail and the data obtained were noted. Afterwards, the data was re-checked and unnecessary parts were removed and summarized data of each study were recorded on computer. The studies were examined one by one according to the research problems and codes were created for each theme. In addition, for the articles: “A” letter, for doctorate dissertations: “DT”, and for Master’s thesis: “MT” letters were used. Each study examined was coded as A1, A2,..., A21, DT1,...DT5, MT1,... MT4, and in order to avoid multiplicity of data.

Validity and Reliability of the Study

In order to avoid any errors during coding, the studies were examined over a long period of time and all the summary information obtained were transcribed. In addition, the validity and reliability of the data were checked by two faculty members who were experts in both qualitative research and meta-synthesis. In order to ensure the validity and reliability of the meta-synthesis studies, the following points should be taken into consideration (Thomas & Harden, 2008; Staneva, Bogossian & Wittkowski, 2015):

1. The purpose of the study and research questions should be clearly stated.
2. Data collection method, inclusion and exclusion criteria should be explained in detail for the validity of the findings.
3. The number of studies reached on the subject and the ones included in the analysis should be explained in detail.

4. Methodology, field, sample, data collection technique and data analysis methods of the studies included in the research should be indicated or presented in tables.
5. Process of data analysis and creation of common themes should be explained in detail.
6. The identification of common themes should be done by more than one field expert and consistency between encoders should be ensured.
7. Adequate time should be spent for the synthesis process.

Data Analysis

In this study, firstly, the data obtained from quantitative and qualitative studies for each theme are presented in tables or graphs in relation to the purpose of the theme. The purpose of presenting the data in this way is to be both visual and to give an opportunity to have an idea about the studies carried out at first glance. In the tables and graphs, only frequencies are given statistically. After making a general explanation under each table or graph, the similarities and differences seen in the studies were analyzed in detail using content analysis method according to the importance of the theme.

FINDINGS

The information about the studies examined are stated below:

In study A1, the effectiveness of in-service training for gifted education was examined. In the study, 30 Classroom, Science, Mathematics and Preschool teachers working at schools in different cities of Turkey, took part as volunteer participants.

In study A2, a teacher preparation program which pointed to provide teachers experience about the implementations on gifted education “Teacher Training Program for Gifted Education” were presented to teachers and teacher views were gathered about the program.

In study A3, the main aim was to determine the effectiveness of training in order to enhance knowledge level about characteristics of talented student given pre-school candidates of assistant teachers.

In study A4, the purpose was to gain an understanding of teacher perspectives regarding identifying and accommodating gifted Hispanic students in their classrooms. The teachers selected for this study varied in the amount of training and experience they reported in working with diverse, gifted learners.

In study A5, the purpose was to define the approaches of undergraduate-elementary education majors at a small, rural south-central U.S. university toward gifted students.

In study A6, the purpose was to explore the lived experiences and perceptions of regular classroom teachers and African American parents who participated in the nomination of

African American students for GT programs and who were not identified for placement into such a program

In study A7, the purpose was to define teacher standards for gifted education to ensure that the top learners in our society are adequately identified and nurtured in the context of school settings. And to ensure equity and systematic, talent search and programming.

In study A8, it was aimed to highlight the importance of teacher training for the development of gifted creativity.

In study A9, the aim of this study was to better understand the relationship between professional advancement in gifted education and the practices used by educators in the classroom

In study A10, the aim of this paper was to map and describe gifted education, teacher training programs and qualifications for teachers of intellectually gifted pupils in Slovakia, Austria, Belgium and Finland.

In study A11, enrichment for the gifted in the regular classroom was studied with a teacher training workshop developed for the purposes of this study

In study A12, it was aimed to examine teacher training programs in an Australian perspective

In study A13, it was aimed to find out how in-service teachers, preservice teacher candidates, and preservice education students viewed gifted and talented learners, and also to know how their respondents felt about teacher training specific to the nature and needs of gifted and talented learners.

In study A14, it was examined the effectiveness of a combined intervention strategy for preservice teachers, consisting of a course in the educating the gifted and an accompanying 9-week practicum, in expanding participants' understanding of the characteristics and needs of gifted students.

In study A15, a professional training program was designed for in-service teachers with the aim to increase teachers' understanding of the characteristics and needs of gifted pupils, and help teachers develop the necessary confidence and skills to effectively teach the gifted in regular, mixedability classes.

In study A16, the effectiveness of a training programme to identify talented students on class teachers in general education schools was investigated and the opinions of teachers regarding strengths and limitations of the training programme were examined.

In study A17, it was aimed to give some insight into teachers' opinions and behaviours as it pertains to professional development.

In study A18, this study investigated the attitudes of special-educators-in-training in a Swedish educational context, where the theme of giftedness is presently not included in teachers' training or in the official guidelines.

In study A19, the aim was to determine the opinions of the teachers of gifted students about in-service training

In study A20, it was investigated whether a number of cultural orientation, sociodemographic, academic achievement, and personal/ personal experience variables predict attitudes toward the provision of special programs/provisions for gifted students.

In study A21, this study was an investigation of teachers' theories of giftedness using methods adapted from those used to study theorybased reasoning in categorization research.

In study DT1, in order to change unwanted behaviors of gifted students at a secondary school, a 30 hours education program based on Glasser's choice theory was developed according to Taba model and implemented to subject teachers.

In study DT2, it was aimed to determine teachers' perceptions, views and educational needs towards gifted students. In this study, parents, supervisors and managers point of views on gifted students were taken into consideration

In study DT3, the aim was to find out teacher education initiatives undertaken by Teachers Colleges to prepare trainee teachers in handling gifted learners in primary schools in Zimbabwe.

In study DT4, the aim was to explore in-service teachers' beliefs and perceptions of gifted students within the heterogeneous classroom and to discover how in-service teachers' perceptions affected their interactions with this unique population of students. Another aim of this study was to examine in-service teachers' perceptions of how their professional development prepared them for educating gifted students.

In study DT5, the purpose was to define which variable, teacher self-efficacy or teachers' approaches towards gifted students, better clarifies teachers' willingness to differentiate instruction for gifted students.

In study MT1, the aim was to determine primary-school teachers' level of awarenesses, who generally work at state primary schools about the education of gifted and talented kids.

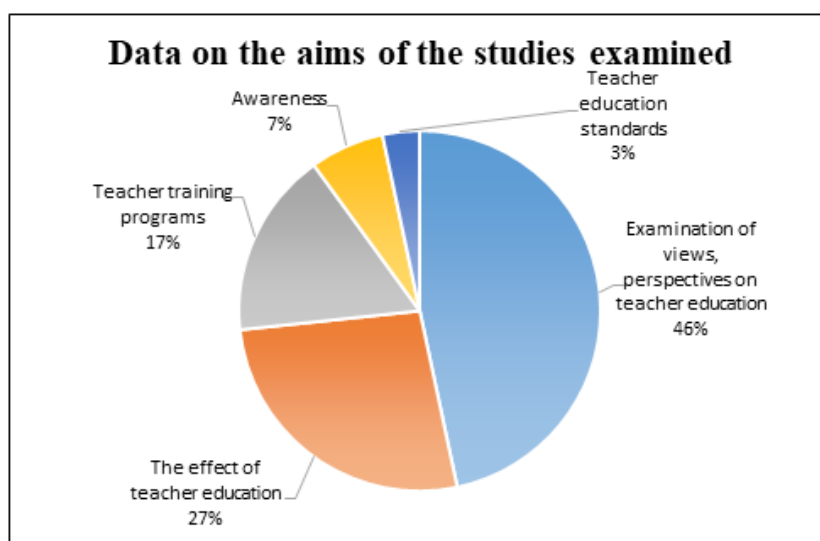
In study MT2, the aim was to investigate early childhood teachers' perceptions towards young gifted children and their self-reported needs for meeting needs of young gifted children.

In study MT3, the aim was to identify beliefs about giftedness within and outside the context of education as well as the value of training in gifted education for educators

In study MT4, the aim was to determine the attitudes of teachers in rural locales towards giftedness and gifted education

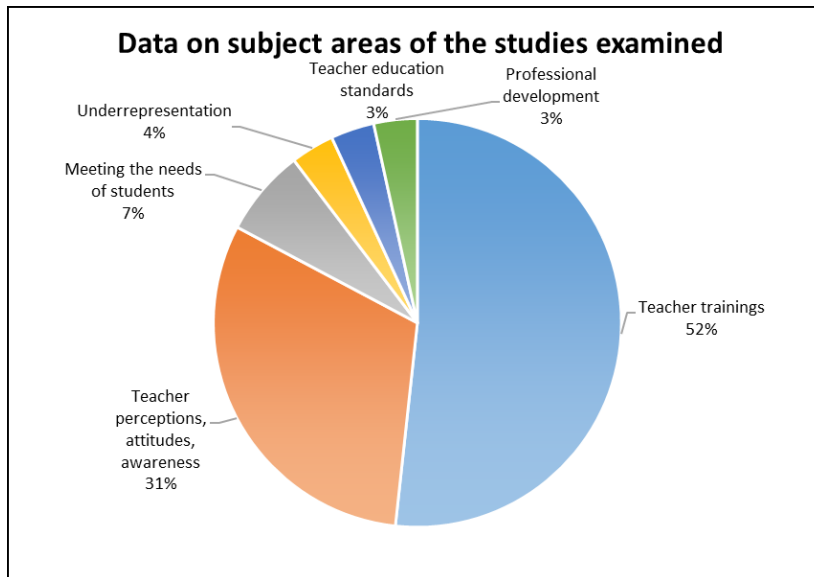
Objectives of the studies which were examined

The figure and explanations related to the purposes of the studies examined within the scope of the research are given below.



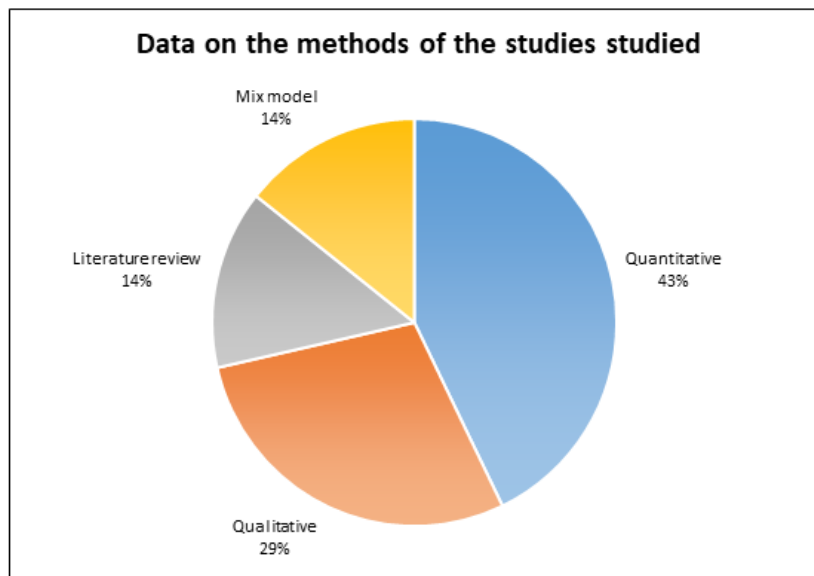
Graph 1: Data on the aims of the studies examined

As can be seen in Graph 1, a significant part of the studies examined focus on teacher views and the effects of teacher training. The other objectives are teacher training programs, the importance of training programs, awareness, and teacher education standards.



Graph 2: Data on subject areas of the studies examined

The majority of the studies examined focus on the subject area of teacher trainings. It was determined that master's and doctoral theses were researches on teacher perceptions, awareness and need to meet the needs of gifted students. Studies on teacher education standards, underrepresentation, and professional development seem to be in the minority.

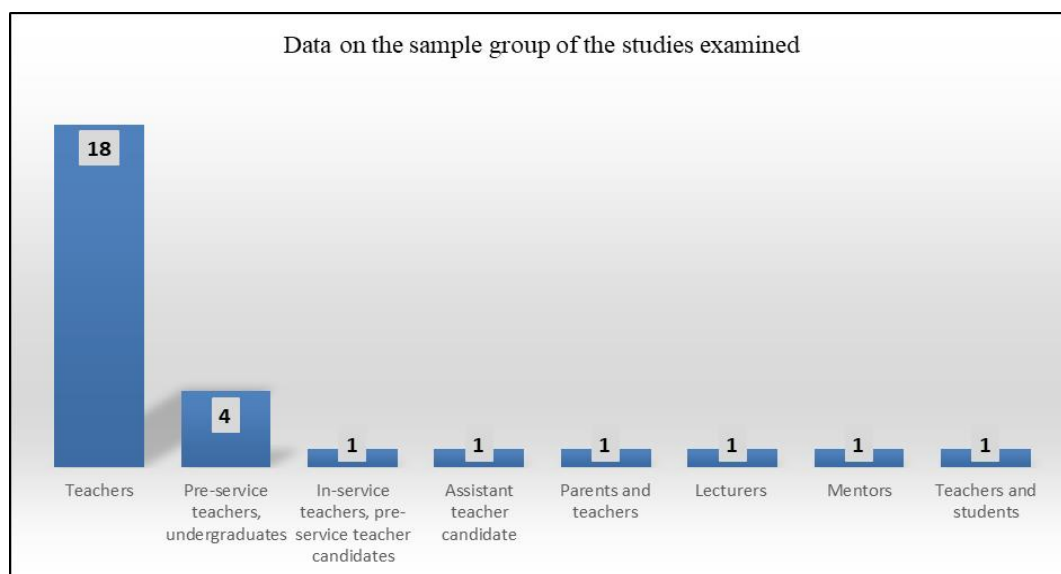


Graph 3: Data on the methods of the studies

As seen in Graph 3, the majority of the studies are conducted using quantitative methods. It was found that 29% of the researches were done by qualitative research methods, 14% of researches were done by literature search and 14% were mixed methods.

Table 4: Data on the sample group of the studies examined

Sample	Study	f
Teachers	A1, A2, A4, A9, A15, A16, DT1, DT2, MT1, MT2, A17, A18, A19, A21, DT3, DT4, DT5, MT4	18
Pre-service teachers, undergraduates	A5, A14, A20, DT3	4
In-service teachers, pre-service teacher candidates	A13, MT3	1
Assistant teacher candidate	A3	1
Parents and teachers	A6	1
Lecturers	DT3	1
Mentors	DT3	1
Teachers and students	A11	1

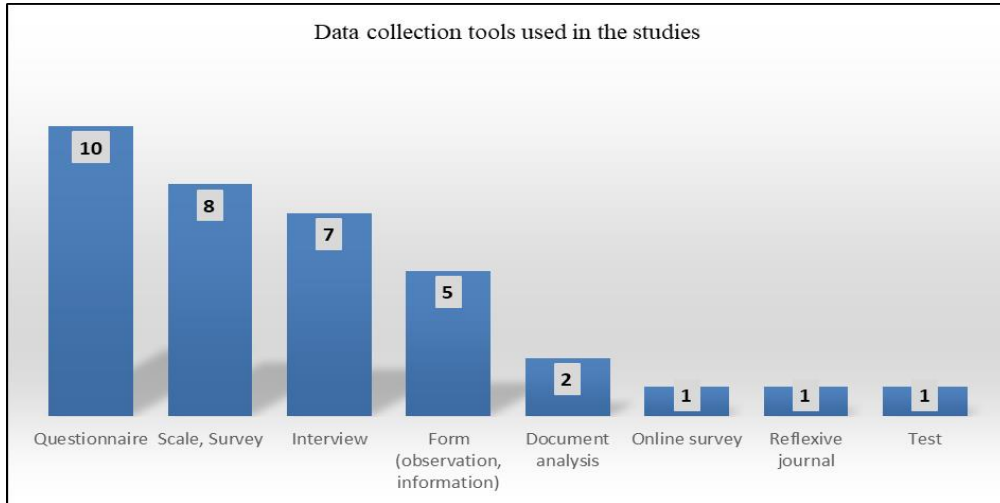


Graph 4. Data on the sample groups of the studies studied

As seen in Table 4 and Graph 4, the majority of the studies examined are conducted with the teachers. There are three articles who focus on pre-service teachers, and undergraduates. The two doctorate dissertations and two masters' theses were completed by teacher participants. The data were collected from pre-service teachers and undergraduates in the three articles. The other minority part of the studies examined was conducted with in-service teachers, pre-service teacher candidates, assistant teacher candidates, parents and teachers.

Table 5: Data collection tools used in the studies examined

Data collection tool	Study	f
Questionnaire	A2, A5, A11, A13, A15, DT1, DT2, MT1, A17, MT3	10
Scale, Survey	A1, A3, A5, A9, DT2, A18, A20, A21, DT5, MT4	8
Interview	A1, A4, A6, A14, DT1, MT2, A19, DT3, DT4	7
Form (observation, information)	A3, A14, A16, DT1, DT2, DT3	5
Document analysis	A1, DT4	2
Online survey	DT4	1
Reflexive journal	DT4	1
Test	A16	1

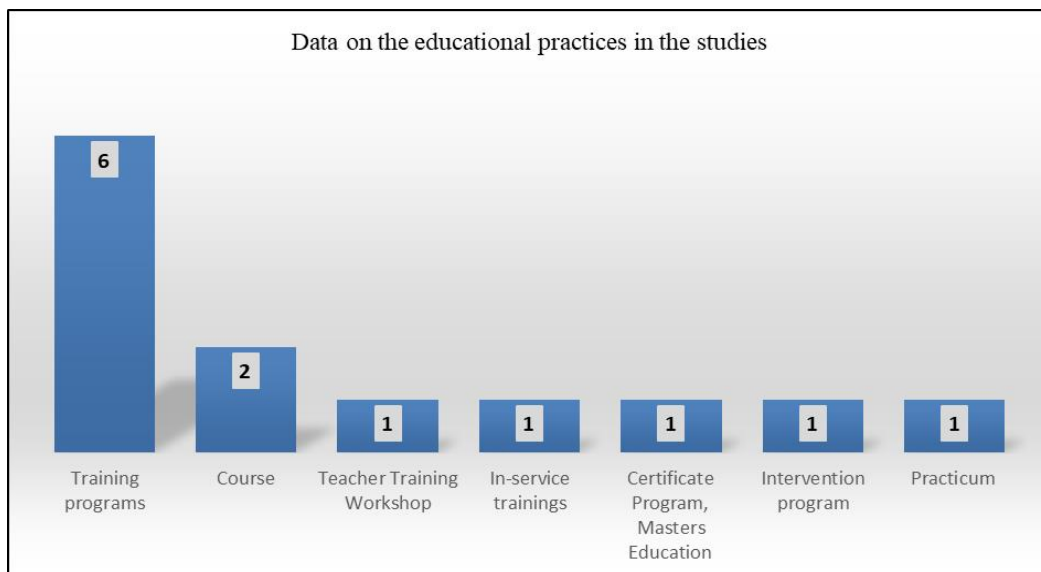


Graph 5. Data collection tools used in the studies

As seen in Table 5 and Graph 5, there are nine studies in which questionnaires were used as data collection tools. There are seven studies that scales, interview techniques were used as data collection tools. Additionally, information and observation forms were used as data collection tools. There are two studies in which document analysis was used, one online survey used, and one in which a test was used. There is only one research that reflective journal was preferred.

Table 6: Data on the educational practices in the studies examined

Educational Implementations	Study	f
Training programs	A2, A3, A15, A16, DT1, DT3	6
Course	A13, A14	2
Teacher Training Workshop	A11	1
In-service trainings	A1	1
Certificate Program, Masters Education	A9	1
Intervention program	A11	1
Practicum	A14	1



Graph 6. Data on the educational practices in the studies

As seen in Table 6 and Graph 6, the educational practices in the studies are training programs, course, teacher training workshop, in-service trainings, certificate program, master's education, intervention program and practicum. The most ranged practice is training programs.

Table 7: Data on the results of the studies examined

Results	Study	f
There is need for trainings	A4, A5, A11, DT2, MT2, A18, A19, DT4, MT3	9
Trainings increase teachers' positive attitudes, awareness, and are successful	A1, A2, A3, A14, A15, A16, DT1	7
Willingness for professional development	A17, A18, A19	3
Teachers' level of knowledge, understanding, and awareness is not enough	MT1, MT2, A13, A17, DT3, MT3	4
Duration of training should be longer	A2, A16	2
The expectations of teachers about educational content are about instructions, attitudes, learning environment	DT1, A19	2
Program enables teachers' efficacy	A1, A3	2
Educational programs/Schools are not enough for gifted students	DT2, DT3	2
The education of teachers has been neglected.	A10	1
Teacher candidates recognise a value in training	MT3	1
Need for well-trained teachers to meet the needs of students	A11	1
Education should be based on practice and implementations	A2	1
Program is applicable	A1	1
There is a relationship between high level of contact to gifted students and support for special provisions	A20	1
The absence of significant differences between classroom teachers with and without certification/endorsement in giftedness	A21	1
Teachers have positive attitudes towards gifted students	DT5	1
The number of years in teaching is a poor predictor of classroom practices	DT5	1
There is a positive correlation between attitudes towards giftedness within education and agreement with outcomes with gifted students being positively influenced by research of and experiences with gifted students.	MT3	1
Slightly positive attitudes toward the need for specialized instruction for gifted students and the social value of giftedness but slightly negative mindsets towards acceleration	MT4	1
The number of years in teaching experience impacts teachers' perception	DT4	1

As seen in Table 7, the majority of the studies showed that there is a need for teacher trainings. It has been found out that the teacher trainings are successful and provide increase in teachers' positive attitudes, awareness. In the research, the participants declared the willingness for professional development. The three studies showed that the teachers' level of knowledge, understanding, and awareness on gifted education and students are not sufficient. In two researches, it has been seen that the durations of the trainings should be longer. The teachers explained the expectations on instructions, attitudes, learning environment about educational environment in two studies. The programs presented in two studies showed that they enable teachers' efficacy. The other results showed the insufficiency of gifted education programs, neglecting of teacher trainings, and there is need for well-trained teachers. The teacher education should be based on both theory and practice. In the article (A1), the implemented program is applicable. As a result of A21, there is the absence of significant differences between classroom teachers with and without teacher trainings. In DT4, it has been found out that the numbers of years of teaching experience impact the teachers' perceptions. Additionally, it has been found out that there is a relationship between high level of contact to gifted children and support for educational provisions.

CONCLUSIONS

As a result of the literature review focused on teacher education and gifted education, it was found that most of the studies reached were based on examining participant views and perspectives regarding gifted education and teacher education. Few studies seem to be related to examining the awareness levels of the participants. It was found out that the researches were on teacher training,

teacher perceptions, perspectives, awareness, student needs, underrepresentation, teacher training standards and professional development. It is seen that the methods used in the studies within the scope of the research are qualitative, quantitative, literature scanning and mixed methods respectively. The sample group included teachers, prospective teachers, assistant teacher candidates and undergraduate students. The data collection tools used in the research were determined as questionnaire, scale, survey, interview, observation and information forms, document analysis, online survey and reflexive journal. It was determined that the educational practices used in the research consisted of teacher training programs, workshops, courses, in-service trainings, certificate programs, graduate programs, inclusion programs and applications. When the studies included in the research are examined, it is seen that the most ratio is the result of the need for teacher education. There is a high rate of the results revealed that teacher training positively affects the teachers' perspectives and their awareness levels. Teachers are eager for professional development. Training programs ensure that teachers are proficient. It is seen that there are studies that conclude that the schools and education programs of gifted students are not sufficient. In addition, the number of studies that reach to the conclusion that teachers' knowledge, understanding and awareness levels are not sufficient is high. There are also studies that have well-educated teachers to determine the needs of gifted students, that the trainings should be practice-based, that the trainings given in the studies are applicable.

Suggestions

Based on the results of the research, the following suggestions were made:

1. Teachers stated that they give importance to education and they are willing to have trainings. However, there are research findings that teacher training has been neglected. With this in mind, it is recommended to increase the quality and quantity of teacher training.
2. The participants stated that teacher training is needed and the duration of their training should be long and practical. In this case, practical and longer pre-service trainings can be organized.

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