



Research Article

The analysis of research about gifted and talented children at early childhood in Turkey: a study of meta – synthesis

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Abstract

The objective/aim of this study is to give an analysis of the researches conducted on gifted and talented in the early childhood period in Turkey through the methodology of meta-synthesis, and yet to reveal the tendencies of the scientific studies. This study provides the literature scanning/reviewing for the articles and graduate thesis written in Turkey between the years of 2002 and 2017. 37 scientific studies are included in this study. At choosing the studies, Google Scholars' search engine, databases of TUBITAK ULAKBIM DergiPark, YOK National Thesis Center, EBSCOhost-ERIC, and SPRINGER are recruited. All the studies which are approached for this study are analyzed through the content analysis for different themes such as years, subjects, working groups, objectives, methods, and outcomes. These categories of the themes present the data and these data are interpreted based on frequency and percentage values. All the theme categories and frequency values are visually shown in tables and graphs. As a result of this study, it is stated that studies on determining the gifted or talented kids in the early childhood period are quantitatively more. It is found interesting that most of the studies have recruited scales and survey methods. Some of the studies on this subject are the articles from the thesis studies. It is revealed that studies focusing on differentiated education programs for the gifted and talented kids in early childhood are minute amount. In accordance with these results, several facts and suggestions related to these facts are discovered such as multi-dimensional measurement methods are needed to be related to identification in Turkey's early childhood period, identification for the gifted and talented kids in their early childhood period is crucial as well as the education for their parents and teachers due to their health education is needed, it is also needed to develop relevant differentiated education programs related to kids' talent fields and finally, it is important to create a national education program to be applied to all the departments who are concerned.

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Introduction

Studying gifted and talented is being one of the most popular study fields in our country for the last decade. The early childhood period for gifted and talented studies is very rare in the literature. Especially in the last decades, studies in this field got increased by number. Generally, these studies are on evaluation the gifted and talented kids and their education as well as their families and teachers.

It is difficult to make a study on the concepts of intelligence or talent, whose definitions are difficult for years. Although there are no common definitions of giftedness, there are some common points for researchers. These common points are considered to be logically evident by Stenberg (1999), who examines them as complex relationships, generalization, abstraction, imagination, sensitivity, reasoning, adaptation, speed, perception and, memory. Criteria considered in defining giftedness and abilities are also taken into account.

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Taking into account the components involved in the definition of intelligence, [Maker \(2003\)](#) describes components of gifted and talent; it states that there is complicated problem solving and desires. Gifted and talented children are effective in complex problems and they produce solutions in a short time and love challenging things. In another definition; Field experts treat individuals as intelligent, creative, leadership, arts, or academically highly successful individuals from their peers ([MEB, 2009](#)). Considering similar criteria, [Koshy \(2001\)](#) gifted and talented; High intelligence, creativity, artistic ability, physical and mechanical ability. In another definition, gifted and talented; General competence, special ability, motivation, and self-concept ([Feldhusen & Kollof, 1986](#)). This definition is similar to Renzulli's general and special ability, the definition of creativity and motivation ([Renzulli, 1977, 1978, 1986, 1998, 1999](#)). [Winner \(1996\)](#), which also combines different features, distinguishes gifted individuals with early development, speed, deepening interest contents

Gifted and talented individuals are rare in society. It is assumed to be around 2% in every society ([Marland Raport, 1972; Webb, Meckstroth and Tolan, 2003](#)). Because there are few gifted and talented individuals, society should be best served by them. The early identification of these individuals, the recognition of educational opportunities, and the provision of pieces of training for their families and teachers have great precaution. Gifted and talented individuals can be detected at an early age and their education can be initiated by providing suitable environmental conditions. As known, intelligence and talent are influenced by two factors. These are heredity and environment ([Davashgil, 2004a](#)). By providing appropriate environmental factors, superior intelligence and talent are expected to emerge in a more positive manner. Environmental factors have been particularly taken into account in the second half of the 20th century and are considered as an effective factor in the emergence of superior ability ([Stenberg, 2003](#)).

The provision of favorable environmental conditions will lead to more specific features of general gifted and talented individuals. The most important features of gifted and talented individuals are their cognitive characteristics ([Ataman, 2003; Çetinkaya, 2013; Delisle, 2003](#)). Gifted and talented people need special and individual training due to their mentioned this characteristic. The early recognition and education of gifted and talented individuals have made the early childhood of gifted and talented people the subject of research ([Baska, 2005; Maker ve Nielson, 1996](#)).

Gifted and Talented in Early Childhood

The fastest period of child development is in the first six years of birth ([Karadağ, 2015](#)). Children whose skills are recognized early will develop better than cognitive, academic, social, and emotional aspects ([Dağlıoğlu and Suveren, 2013; Schofield and Hotulainen, 2004; Stapf, 2003](#)). According to [Baykoç \(2011\)](#), early talents and skills lead to the education of children. Early identification of children's abilities, organization of school and home environments, informing the family and the teacher, preparation of appropriate programs. At the same time, the correct planning of your future is of social and social significance.

Gifted and talented individuals need to be trained in early detection areas ([Hökelekli and Gündüz, 2004; Gür, 2006](#)). If gifted and talented children cannot get recognition early on, they may have negative attitudes towards life and the future in further years of their lives. The inability to use the mental power of gifted and talented children in the right direction can have a reverse effect. This can reveal unwanted educational processes and behaviors ([Hodge & Kemp, 2002](#)).

Early identification of gifted and talented children, the first way to prepare future-oriented programs is to recognize them correctly. This process takes place in Turkey as nomination, pre-evaluation, group screening, individual review, registration, and placement ([MEB, 2009](#)). For children to be properly identified, the family and teachers have as much responsibility as the experts ([Karadağ, 2015](#)). Especially in earlier periods, questions about how to predict and measure intelligence bring more tasks and responsibility for the family and the teacher. From the instruments used in identification, to the diagnosis criterion there are many areas that we should be careful of.

WISC-R, Stanford Binet, Leiter are some of the instruments used in Turkey. These have been used in the first year of the adaptation. It is a deficiency that has not been updated in years ([Ari, 1999](#)). The use of these tests within the same norms and criteria for many years has risen to questions about reliability. In this sense, the MEB has standardized the Wechsler Non-Verbal Test / Wechsler Nonverbal Talent Test (WNV) and the Kaufman Brief Intelligence Test / Kaufman Short Intelligence Test (K-BIT). These tests have been used in the selection of students for BILSEM in recent years ([Alma, 2015](#)).

Early education of gifted and talented individuals also benefits their families and teachers. The energy of gifted and talented children, the willingness to ask questions and learn leaves their teachers and families in a difficult

situation. Early identification of superiority can help parents and teachers to map the pathways on how to live with these children (Cutts & Moseley, 2004; Dağlıoğlu, 2010; Heller & Schofield, 2008).

Most of the studies on gifted and talented education focus on primary education and older ages (Alma, 2015). Most of the studies on gifted and talented education focus on primary education and older ages. There are no researches that analyze these researches in a multi-factorial way in the article and thesis dimension and synthesize them qualitatively. This study will ensure that the researches working on this topic will be aware of the work they will undertake in the field and have knowledge of the content and methodology of their work.

The Importance of the Research

As a result of this research, we explain in detail what type of studies conducted for gifted and talented children in Turkey, what years those studies are conducted, what kind of objectives these studies have, what methods to be used in the studies, and what outcomes are obtained, therefore, it will be a sort of guideline for the experts who work on this topic.

The Objective of the Research

The main objective of this study to synthesize regarding with early childhood area gifted and talented children masters and doctoral theses made in turkey and published scientific articles in various journals. For this purpose, answers to the following questions were sought:

- What are the types of the studies conducted on gifted and talented children in early childhood period?
- What are the years of the studies conducted on gifted and talented children in early childhood period?
- What are the most common issues of the studies conducted on gifted and talented children in early childhood period?
- What are the participants / research groups of the studies conducted on gifted and talented children in early childhood period?
- What are the objectives of the studies conducted on gifted and talented children in early childhood period?
- What are the methods of the studies conducted on gifted and talented children in early childhood period?
- What are the outcomes of the studies conducted on gifted and talented children in early childhood period?

Method

The Design of the Research

In this study, a meta-synthesis study was used from the content analysis types as it was aimed to analyze the studies about giftedness and talent in early childhood in Turkey by qualitative methods and to determine general tendencies. The aim is to conceptualize the data obtained from the scientific studies in the content analysis. Coding of concepts under certain headings, determination of themes, the arrangement of categories, identification and interpretation of findings from the obtained categories (Yıldırım & Şimşek 2011). Meta-synthesis is a study that is included in the content analysis studies and it is the interpretation and synthesis of the works done on the same topic with a critical point of view by creating themes or main templates (Çalık & Sözbilir, 2014). Meta-synthesis studies are studies in which qualitative aspects of only qualitative studies or mixed method studies in which a small number of studies are addressed and an in-depth study is made (Polat & Ay, 2016).

The Scope of the Research, Collecting Data and the Criteria for Including the Data in the Study

The scope of the research consists of 37 scientific studies in Turkey, including 20 articles, 12 master thesis, and 5 doctorate thesis carried out by Turkish researchers in the years between 2002-2017. Keywords "early childhood" and "gifted and talent" were used during the literature review. Despite the absence of early childhood concepts in the titles of the studies, studies in which gifted and talented individuals were formed and/or family and teachers were included in the early childhood period of the sample group were also evaluated and included in the study. Thus, all the studies related to early childhood gifted and talent in terms of keywords and sample/study group and data sources were tried to be investigated. The National Thesis Center, TUBITAK ULAKBİM Dergipark, Google Scholars, EBSCOhost-ERIC, and SPRINGER databases were used in determining the studies to be included in the research. While the studies were determined within the scope of the research, the sample was determined according to the purposeful sampling method. Criteria for determining the studies; a- the studies are made by the Turkish researchers in Turkey, b- whether the research is for the children aged 0-6 /8 and their families and teachers, c- the studies are either thesis studies or published in journals with the editorial board.

The Analysis of the Data and Coding Process

In the study, the steps of the meta-synthesis work were applied sequentially and systematically. These steps are listed below:

- Determination of the subject and writing of research questions
- Selection of the articles to be included in the study.
- Reading the chosen articles.
- Creating common themes
- Synthesis of the common themes
- Writing reports about the process and the findings (Polat & Ay, 2016).

It is thought that the visualization of the data in the form of graphics and tables will facilitate the reader's sense of meaning. In content analysis, the main objective is to collect the themes and the data that are similar to each other in the studies and, to organize these operations in the most comprehensive way that readers can understand. It is necessary to achieve a healthy synthesis by editing and interpreting this data appropriately. In the study, firstly the themes were formed from all qualitative and quantitative studies that were examined after determining the research questions. The themes obtained are presented in the graphics and tables with their categories, frequencies and, percentage values.

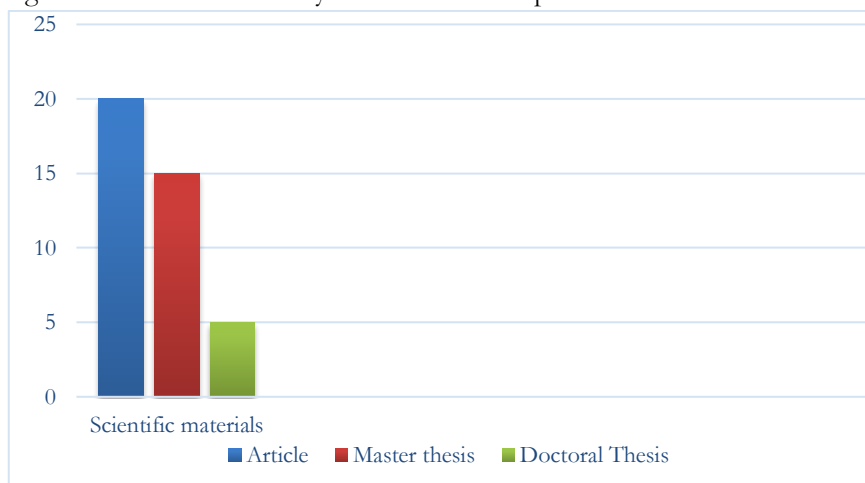
In the coding process, each study included in the research was first read in detail and examined according to the research problems and coded according to each theme and recorded in the computer platform. Each study examined is coded as A1, A2, A3 ... A37. The data were read over and over again and unnecessary parts were removed.

The Validity and Reliability of the Research

The objectives and research questions of the study have been expressed clearly in order to ensure validity and reliability. The method of data collection and the criteria have been included in the collection of data to ensure the validity of the findings. It has been presented in tables and graphics to ensure the reader understands easily. The analysis of the data and the creation of common themes are explained in detail. Subcategories related to the subject, purpose, study group, and results of the studies have been created and an internal reliability study was conducted by evaluating consistency between evaluators. During the evaluator disputes, the agreement has been achieved by reviewing the subcategories together with the evaluator. All studies were checked by comparison by two investigators. The studies that have been determined by an unbiased assignment are independently re-evaluated by the expert to evaluate the inter-study reliability.

Results

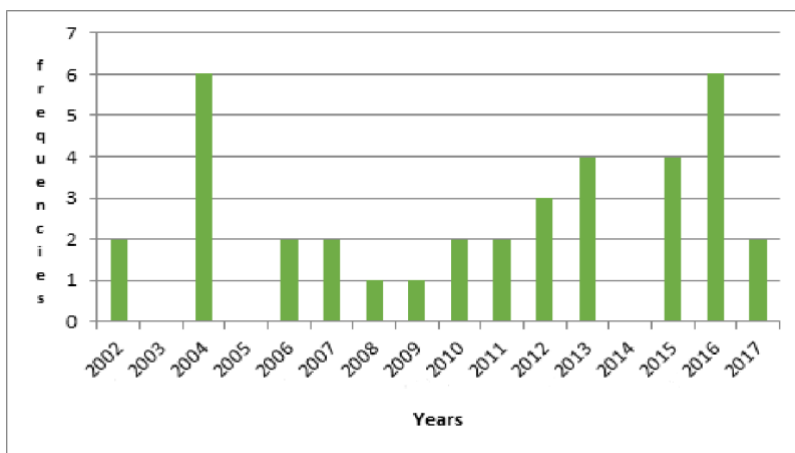
In this section, findings obtained from the analysis of the data are presented.



Graphics 1.

Distributions of the Study by Types

The distribution of scientific studies conducted with gifted and talented children in early childhood period in Turkey is shown in Table 1. According to Table 1, 20 of 37 studies analyzed were scientific articles (54,05%), 12 of them were master thesis (32,43%), and 5 of them were doctoral theses (13,51%).



Graphics 2.

Distribution of the Study by Years

Graphics 2 shows the distribution of scientific studies conducted in Turkey with respect to gifted and talented children in early childhood according by the publication year. Among the 37 studies examined according to Graph 2, the most studied studies were conducted between 6 and 24 years between 2004 and 2016, while the least studied years were 1 year and the 2008-2009 years were the opposite. Again, according to Graphics 2, it is seen that in 2003, 2005 and 2014 there was no study of gifted and talented children in early childhood.

Table 1.

Distribution of the Studies in Turkey by Subjects

Subjects	Studies	f	%
Effects of Parent and/or Teachers	A23	1	2,70
Detecting perception, attitude and ideas of the parent or/and teachers.	A17, A18, A20, A22, A26, A28, A32, A33, A36	9	24,32
Education Applications towards Over Talented Children and The Effects	A9, A15, A33	3	8,10
Determining and Diagnosis of gifted and talent in Early Childhood	A1, A2, A4, A5,A6, A10, A11, A14, A16, A19, A21, A24, A25, A29, A34, A37	16	43,24
Intelligence Test/ Scale Adjustment	A8, A12, A13, A27, A31	5	13,51
Case Determination	A3, A7,A30	3	8,10

The distribution of gifted children in early childhood by subjects is shown in Table 1. In Table 1, the study of the talents of early childhood has been divided into 6 different themes in terms of the total of 37 study subjects. It is seen that the most studied subject is “Identifying and diagnosing gifted and talent characteristics in early childhood” (n=16, 43,24%). Considering all the studies in our country regarding gifted and talented in early childhood, it is noticed that this topic of the studies is almost half of the topic of all the studies. This is followed by studies on “Determination of parent and / or teacher perception, attitudes and opinions” (n=9, 24,32%). Apart from these subjects, aspects such as “Intelligence test / Scale adaptation” (n=5, 13.52%), “Educational practices and effects for gifted children” (n =3, 8,10%), “Case detection” are observed. Other than these, the least observed / studied subjects were “Parent and / or teacher education / effects” (n=1, %2,70).

Table 2.*Distribution of the Studies by Working Groups*

Working Groups	Studies	f	%
Normal, Gifted and Talented Children in early childhood	A6, A8, A10, A12, A13, A14, A15, A16, A27, A29, A31, A34	12	32,43
Gifted and talented Children in early childhood	A1, A2, A4, A5, A9, A11, A19, A25, A37	9	24,32
Preschool Teacher	A17, A20, A23, A26, A28, A32, A33, A36	8	21,62
Parent of gifted or talented Children in the early childhood	A21, A22.	2	5,40
Preschool Teacher and Parent of gifted or talented Children	A18, A24	2	5,40
Gifted or talented Children in the early childhood ad his/her family	A35	1	2,70

The classification of the 37 studies by participants is shown in Table 2. It was determined that 32.43% of the studies (n=12) were “normal, gifted and talented children in early childhood period” and 24.32% (n=9) were in “gifted and talented children in early childhood period”. However, the study groups of the other researches are respectively: “Preschool teacher” (n=8, %21,62), “Parent with gifted and talented child in early childhood” (n=2, %5,40), “Parent with gifted and talented child who has a preschool teacher” (n=2, %5,40) and finally only one study “Gifted and talented child and family in early childhood” (n=1, %5,40).

Table 3.*Distribution of the Studies by Objectives*

Objectives	Studies	f	%
Determining the gifted and talented children in early childhood	A1, A2, A5, A6, A13	5	13,51
Adaptation the scale in determining the gifted and talented children in early childhood	A8, A12, A13, A27, A31	5	13,51
Determining the gifted and talented children in early childhood	A10, A14, A18, A35.	4	10,81
Analysis of the perceptions, attitudes and opinions of preschool teachers and/or parents towards gifted and talented children in early childhood	A17, A20, A28, A32	4	10,81
Information about differentiated curriculum for gifted and talented children in early childhood	A3, A30	2	5,40
Determining the developmental characteristics of superiors during early childhood / babyhood	A4, A11	2	5,40
Examination of gifted and talented children according to different demographic characteristics in early childhood	A4, A19	2	5,40
Analysis of the effect of art education program on drawing skills of gifted children in early childhood	A9, A19	2	5,40
Comparison of some features from children with normal development and gifted and talented children	A16, A34	2	5,40
Giving information to parents and teachers about gifted and talent in early childhood	A7	1	2,70
Analysis of the correlation between intelligence level and motivation	A12	1	2,70
Researching on the contributions of an enriched English learning program	A15	1	2,70
Analysis of the correlation between parent’s attitudes and intelligence	A22	1	2,70
Analysis of the efficiency in the education given to preschool teachers	A23	1	2,70
Analyzing the opinions of gifted children’s teachers on the preschool education given to the gifted and talented children	A26	1	2,70
Analyzing the effects of intelligence on receptive and expressive language skills in early childhood	A29	1	2,70

The relationship between self-efficacy levels of pre-school teachers and attitudes towards education of gifted children	A33	1	2,70
Examining the effect of social skills training program on social skills development	A35	1	2,70
Determining the opinions of pre-school teachers about using the enrichment method as an intervention method	A36	1	2,70
Examination of non-simultaneous development, identification of possible problems and solutions	A37	1	2,70

Table 3 shows the distribution of gifted children in early childhood by the objectives of the study. When the studies were examined, the objectives were collected under a total of 20 category headings. In the studies examined, it is seen that studies are mostly aimed at the categories “to determine the gifted ones in mathematics in early childhood” (n=5, %13,51) and “to adapt the scale to determine giftedness and talent in early childhood” (n=5, %13,51). Beginning new concepts of giftedness and talent in early childhood in our country can be seen as one of the reasons for the excessive aim of talent and intelligence determination studies. Indeed, the first step in the process of studying and examining the outputs is identification. The following objectives have been identified as categories of “identifying gifted and talented children in early childhood” (n=4, %10,81) and “examining the opinions, perceptions and attitudes of pre-school teachers and / or parents about gifted and talented children in early childhood” (n=4, %10,81).

The objectives as two at a time are the following (n=2, %5,40): “To give information about differentiated curriculum related to early childhood”, “To determine developmental characteristics of early childhood period”, “To examine gifted and talented children in early childhood according to different demographic characteristics”, “Studying the effect of the art education program on the skill of drawing gifted children in early childhood”, “Comparison of some characteristics between normal developing children and gifted and talented children”.

The categories of the objectives are arrayed as one at a time as following (n=1, %2,70): “Giving information to parents and teachers about gifted and talented children in early childhood”, “The relationship between intelligence level and motivation styles”, “Researching the contributions of an enriched English teaching program”, “Analysis of the correlation between parent’s attitudes and intelligence”, “Analysis of the effectiveness of education given to preschool teacher”, “Analyzing the views of gifted children’s teachers about gifted students in pre-school education”, “Analyzing the effects of intellect on receptive and expressive language skills in early childhood”, “The relationship between self-efficacy levels of pre-school teachers and attitudes towards education of gifted children”, “Examining the effect of social skills training program on social skills development”, “Determine the opinions of pre-school teachers about using the enrichment method as an intervention method” and “Examination of non-simultaneous development, identification of possible problems and solutions”.

Table 4.

Distribution of the Studies by Outcomes

Outcomes	Author	f	%
Parent / teacher opinions are influential in determining giftedness.	A18, A21, A10, A17, A28	5	13,51
Preschool teachers need to be informed, trained and supported about giftedness and talent.	A17, A20, A26, A32, A37	5	13,51
Some demographic differences are influential in determining gifted and talented children in early childhood.	A5, A6, A16, A19, A34	5	13,51
Scales adapted to determine gifted and talented children in early childhood are valid and reliable.	A8, A12, A13, A27, A31	5	13,51
Scale / questionnaires used are effective in determining relevant skills in early childhood.	A1, A2, A6, A10	4	10,81
Candidate children in early childhood match general characteristics of giftedness and talent.	A4, A8, A24	3	8,10
Parents are more successful than teachers in determining intelligence and creativity characteristics.	A1, A11, A14	3	8,10
There are significant differences occurred after the training sessions.	A23, A35	2	5,40
There were no significant differences after the training.	A9, A10	2	5,40
Preschool teacher / teacher candidates have positive perceptions	A32,A33	2	5,40

and attitudes towards gifted students.			
Intelligence is effective on receptive and expressive language skills.	A26, A36	2	5,40
Pre-school gifted and talented students have unusual interests and ideas.	A25	1	2,70
Parent / teacher attitudes are predictors of giftedness in early childhood.	A22	1	2,70
There is a significant relation between intelligence and motivation styles.	A12	1	2,70

Table 4 shows the distribution of gifted children in early childhood period by outcomes. When all of the study results were examined, it could be collected under 14 categories. The outcomes of the categories suggest the following findings are the most popular ones: "Parent / teacher opinions are influential in determining gifted and talented.", "Preschool teachers need to be informed, trained and supported about giftedness and talent.", "Some demographic differences are influential in determining giftedness and talent in early childhood.", "Scales adapted to determine superior intelligence and ability in early childhood are valid and reliable." (n=5, %13,51).

Following this, some other outcomes from the categories are listed as: Scale / questionnaires used are effective in determining relevant skills in early childhood" (n=4, %10,81), "Candidate children in early childhood match general characteristics of giftedness and talent" (n=3, %8,10) and, "Parents are more successful than teachers in determining intelligence and creativity characteristics." (n=3, %8,10), "There are significant differences occurred after the training sessions." (n=2, %5,40), "There were no significant differences after the training." (n=2, %5,40), "Preschool teacher / teacher candidates have positive perceptions and attitudes towards gifted students." (n=2, %5,40), "Intelligence is effective on receptive and expressive language skills." (n=2, %5,40) and as one outcome a time: "Pre-school gifted and talented students have unusual interests and ideas." (n=1, %2,70), "Parent / teacher attitudes are predictors of giftedness in early childhood.", "There is a meaningful relationship between intelligence and motivation styles.".

Table 5.

Distribution of the Studies by Methods

Methods	Design	Studies	f	%
Quantitative	Survey	A1, A2, A4, A5, A11, A16, A19, A22, A32	9	24,32
	Experimental	A9, A15, A23, A29, A35	5	13,51
	Scale Adaptation	A12, A13, A27, A31	4	10,81
	Correlational Research	A6, A10, A12, A13, A14, A18, A28, A33, A34	9	24,32
Qualitative	Case Study	A24, A26, A37	3	8,10
	Phenomenology	A17, A20, A21, A25, A36	5	13,51
Mix Method		A8	1	2,70
Literature Review		A3, A7, A30	3	8,10

The classification of the 37 articles analyzed is presented in Table 5. More than half of the work on in the general framework seems to be applied to quantitative methods. As for the majority of the quantitative studies (%n=924,32), it is seen that the survey and correlational research design are preferred among the quantitative methods. The least used quantitative research method is the experimental model (n=5, %13,51). When we look at the qualitative studies, it is seen that the case study (n=3, %8,10) and the phenomenology (n=5, %13,51) design are preferred. Apart from this, it is seen that in the three studies, the field literature review and the mix method are used. It is seen that almost all of the studies using the survey method have collected data with a few measuring instruments and tried to determine the current situation with short-term studies and trying to determine normal and gifted and talented children.

All of the 3 compilation studies (A3, A7, A30) consisting of articles are presented in Table 5. Qualitative method was applied in 10 of the articles examined while 7 of them were applied to quantitative method. The experimental design (A23) in one of them, the scale development (A31) in one of them, the survey model (A2, A4, A5, A16) in five of them and the correlational survey models (A6, A18, A22) in three of them were used in only one of the quantitative methods used in the models. Qualitative methods used in 7 articles are four examples (A17, A21, A25, A36) and three case studies (A24, 126, A37). Experimental design (A2, A15, A35) were preferred in three out of five

doctoral theses made on the field, one mix method (A8) and one survey method (A1) were used. Four of his doctoral theses were based on quantitative (A1, A2, A15, A35) and only one composite (A8) method. While quantitative methods were used in eleven of the 12 graduate thesis, in only one of them, qualitative method was preferred. Five of these are the ones where the correlational research method is used (A10, A14, A28, A33, A34), three of them recruit scale development studies (A12, A13, A27), two of them recruits survey method (A11, A32) and finally only one of them recruits experimental method (A29).

Discussion and Conclusion

In this section, the results obtained in the research are discussed in the context of research problems. A total of 37 studies were analyzed in this study covering the teaching and services offered by gifted and talented children, families, and teachers in early childhood (0-6/8 years) in Turkey from the years 2002 to 2017. It is seen that the first study was done in 2002 when giftedness or talent was obtained in the early childhood period in our country. Given the scientific work on gifted and talented children in early childhood in general, only 37 studies have been conducted for a total of 16 years since 2002 reveal that in our country, studies are quantitatively insufficient. Although there has been a general increase in awareness and the number of studies conducted with gifted and talented children in recent years in our country, studies on giftedness and talent in early childhood are not sufficient and qualitative. However, the identification of early childhood giftedness and talent is important in early education in these fields, yet this is stated both in foreign and domestic studies (Dağhoğlu, 2002; Gür, 2006; Çetinkaya 2012, Saranlı 2017; Schofield & Hotulainen, 2004; Stapf, 2003).

When the distribution of scientific studies by types is examined, it is seen that 20 of them are articles, 12 of them are master thesis and 5 of them are doctoral theses. When the distribution of all the studies done by years is examined, it is noteworthy that the years of 2004 and 2016 are determined as the most concentrated years with 6 studies each, on the other hand, no studies have been reached between the years 2003, 2005 and 2014. However, when we look at the work done in these years, in 2016, there are three graduate theses and one doctorate thesis. The concentration of the work done at the graduate level is considered promising in this sense. In addition, the increase in work after 2005 is a sign that researchers are increasingly interested in this issue. It is important that field researchers are directed to work at the doctoral level in order to reach more qualified and effective studies. Studies conducted in the field and in our country suggest that the studies on gifted and talented children should be continued in early childhood.

When the distribution of researches by study groups is examined, it is seen that most studies were made with children. These studies are usually studies aimed at determining children's gifted and talent areas by applying certain scales. Studies conducted with families of children gifted and talented in early childhood are limited. Studies conducted with preschool teachers are few, and studies conducted with this group have generally received opinions for children who have gained gifted and talent in early childhood. As in every child in early childhood, gifted and talented children cannot be denied the importance of the environment. In this age range, the environment covers the family and teacher relationship intensively for one individual (Damasio, 1999; Miklewska, Kaczmarek & Straleu, 2006; Weiten, 1995). It is estimated that in new studies to be done parents, children, and teachers/specialists will considerably increase the quality of studying to be involved in the same work.

When we look at the distribution by methods, it is seen that a significant part of the studies is handled with quantitative methods. Researchers emphasize that quantitative methods are preferred over qualitative methods in studies (Selçuk, Palancı, Kandemir & Dündar, 2014). However, when the quantitative studies in the research are examined in detail, it is seen that the studies focused on the survey studies using data collection tools such as scale, questionnaire are emphasized. It is seen that in some studies the methodological tendencies of the articles and theses are less favorable than the survey method in the quantitative researches (Varışoğlu, Şahin & Göktepe, 2013; Karadağ, 2010). This can be attributed to the fact that the cost of survey work is low in terms of time and effort. Very few of the studies on gifted and talented children in early childhood have used experimental pattern which aims to reveal the change in the process. Especially when the articles are examined, it is seen that the studies carried out with the experimental designs are so small that there is no work to be done. The difficulty of reaching children with gifted and talent recognition in early childhood as a result of the small number of experimental designs in quantitative studies and therefore the group can be expressed as the strength of the design of experimental studies. Qualitative studies have been reached even though they are not sufficient in numbers. Büyüköztürk et al. (2013) emphasize that qualitative research types will provide more in-depth information in comparison with quantitative research and that

questions in response to quantitative methods will lead to a better expression of problem questions. It is thought that qualitative researches take a considerable amount of time and cannot be preferred due to the difficulty of data analysis. However, studies on gifted children in early childhood are thought to be able to reveal problems, thoughts, and perceptions on this subject in a healthier way and to include qualitative research to describe the situation more in detail.

Given the distribution of the studies examined, it was generally seen that early gifted and talented children were selected from a group of children and their characteristics were taken into consideration. Another issue that has been intensively preferred is to determine parents' and teacher's attitudes and opinions to the child who is gifted and talented in early childhood. Scale adaptations are also a preferred research topic by researchers in order to identify early intelligence and talent areas. There seems to be little to be said about the issues that aim to develop a teacher and family education program for these children. It is being trained as an instructor who will plan and implement early post-childhood education determined to be gifted and talented in our country. However, the number of experts who plan and implement the training of gifted and talented children in the early period is almost none. Due to this reason, it is necessary for academicians and experts working in the field to prepare a teacher training program in this regard. Also, the development of differentiated educational programs for gifted and talented children in this period and studies that test effectiveness will help policy practitioners to draw attention to this topic.

When we focus on the results obtained from the studies, there is a quantitative surplus in the category numbers generated under the resulting base. The reason for this is that the goals and problems of a small number of studies can be carrying different qualities. The scales adapted to determine giftedness and talent in early childhood are valid and reliable in terms of use, according to the results of the reviewed studies. In a large majority of studies examined, it is seen that different demographic characteristics affect determining giftedness and talent. It is observed that the scales applied to the children who were nominated by their teachers or their families give the same results, and it was observed that the parents give effective results in the nomination process compared to the teacher. About this, in the studies related to preschool teachers, teachers also state that they need some information and support certain on this subject. According to another research result, there was a correlation between preschool teachers' self-sufficiency levels and their attitudes towards the education of these children. Between intelligence and motivation styles, according to the results of some studies: significantly significant differences between intelligence and early mathematics education were found.

Recommendations

This study on gifted and talented children in the early childhood period aims to reveal the general situation in our country, as well as to reveal the educational and social needs to show the path to the ones who work in this field. In our country, it is possible to see and detect the deficiencies in the field of education regarding gifted and talented children in the early childhood period, and to establish new commissions and solutions for this. A researcher who wants to work in the early childhood period may be able to recognize the deficiencies and increase their focus and tendency on this field. The research also reveals that the studies on giftedness and talents in early periods in our country are limited. Yet, the awareness level of early childhood diagnoses is very significant. It will be beneficial to organize projects and volunteer base activities through internet websites and social media to create and raise awareness.

When studies on gifted and talented children in early childhood are examined, it is observed that such studies are usually tried to be determined by using a measuring tool in our country. It may be suggested that the studies carried out in this respect be improved by using differentiated training programs. However, in early childhood, healthy diagnosis instruments are needed. Beyond using a single scale, new work on early detection should cover different measurement instruments that have validity and reliability and that can be measured with different parameters. In studies, it is seen that in order to identify giftedness and talent in early childhood, these intelligence scales and some scales recruited from abroad are used. The healthier outcome may be achieved by a domestic identification instrument.

The place of the family in early childhood period is undeniable. Families with gifted children in early childhood period need to be informed about the characteristics and educational needs of such children. Researchers should work on educational programs to inform families on these issues. It is thought that parents having sufficient knowledge about this issue and identify the children on time will increase the probability of studies to prevent and interventions.

In order to ensure the early childhood identification and children's nomination by teachers correctly, teachers should be informed about giftedness skills. In this respect, the focus should be the teachers' awareness and training on giftedness and talent in early childhood. Therefore, it will be beneficial if the ministry organizes such training programs. Gifted and talented children may have kindergartens offering full or part-time differentiated education. Also, in our country, it is the primary school period when the children are admitted to the science and art centers where the gifted and talented students are in. In the early period, however, education is vital to all gifted and talented children in special education services as much as for all children. Due to these reasons, the training process for gifted and talented children should be started from an early age.

Gifted and talented children identified at an early age should be educated with an enriched curriculum accordingly and, it is important to test the educational programs developed in this subject with experimental design. If researchers create educational programs for children identified as such in their early childhood period and if those children can get education according to their situation, this will be beneficial both as materially and morally for our country. Therefore, it is suggested that the differentiated curriculum should be increased in order to focus on pre-school education apart from the primary and high school.

The Limitations of the Research

The research covers theses written in Turkey or the articles addressed in Turkey in the field of gifted and talented children early childhood period in 2002-2017. This research is limited to a total of 37 studies including 20 articles, 12 master thesis and, 5 doctorate thesis. In terms of research and research groups, the amount of data covered in the field of gifted education in early childhood was used. The generalizability of the findings is limited to the review articles and postgraduate theses.

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Appendices

Appendix 1.

Selected Sources Listed Below are Used for Analysis

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