Analysis of Studies Made for Mentally Disabled Students in the Mathematics Education: Turkey Example [1]

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Abstract: In this study, it is aimed to analyse the studies made in the mathematics education for mentally disabled students. This study was carried out according to 7 different variables, which are research method, data collection tools, data analysis, sample type, sample size, researchers' area of expertise and distribution of studies through years. In order to actualise these objective, researchers used various search engines such as Ulakbim, Dergipark, Google Academic websites and two state university screening engines and attained a total of 56 academic studies including 20 articles, 28 master's theses and 8 doctoral theses. The attained academic studies were assorted and analyzed through the form prepared by researchers. The data were analyzed according to content analysis. The findings are presented as tables in descriptive form. The obtained data show that, the studies were mostly made with qualitative method (%87,4) and scale (%64,28) was used as data collection tool. Furthermore, it was ascertained that, in analyzed studies, more than other methods graphical analysis method (%64,28) was favoured. It was observed that the researchers generally preferred to study with the students (%64.28) and with a small sample. Finally, it has been determined that the studies conducted on this subject have been conducted by the researchers (%78,5) from the Special Education Department. It was discovered that, the researches gained momentum after 2008 and the first studies started during the 1980s. Based on these findings, it has been suggested to use different methods in the mathematics education for mental deficiency, to accomplish sufficient studies with different sample groups, to work mathematics and special education teachers together and thus to increase the studies on this matter.

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Keywords: Mathematics Education, Special Education, Mentally Disabled Students, Content Analysis

Zihinsel Engelli Öğrencilerle Matematik Öğretimi Alanında Yapılan Çalışmaların İncelenmesi: Türkiye Örneği

Özet: Bu çalışmada zihinsel engelli öğrencilerle matematik öğretimi alanında yapılan çalışmaların incelenmesi amaçlanmıştır. Bu inceleme araştırma yöntemi, veri toplama araçları, veri analizi, örneklem çeşidi, örneklem büyüklüğü, araştırmacıların uzmanlık alanları ve çalışmaların yıllara göre dağılımları olmak üzere 7 farklı değişken üzerinden yapılmıştır. Araştırmanın amacı doğrultusunda Ulakbim, Dergipark, Google Akademik web siteleri ve iki devlet üniversitesinin tarama motoru gibi çeşitli arama motorları kullanılmış ve 20 makale, 28 yüksek lisans tezi, 8 doktora tezi olmak üzere toplam 56 akademik çalışmaya ulaşılmıştır. Ulaşılan akademik

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çalışmalar araştırmacılar tarafından geliştirilen form ile tasnif ve analiz edilmiştir. Veriler içerik analizi yöntemi kullanılarak analiz edilmiştir. Bulgular betimsel şekilde tablolar halinde sunulmuştur. Elde edilen veriler, çalışmaların çoğunlukla nitel yöntemle yapıldığını (%87,4) ve çalışmalarda veri toplama aracı olarak sıklıkla ölçek (%64,28) kullanıldığını göstermektedir. Ayrıca incelenen çalışmalarda grafiksel analiz yönteminin (%64,28) diğer yöntemlere nazaran daha fazla tercih edildiği tespit edilmiştir. Araştırmacıların genellikle öğrencilerle (% 64.28) ve az sayıda örneklemle çalışmayı tercih ettikleri görülmüştür. Son olarak, ilgili alanda yürütülen çalışmaların büyük bir kısmının (%78,5) özel eğitim alanında uzman araştırmacılar tarafından yapıldığı belirlenmiştir. Araştırmaların 2008`den sonra ivme kazandığı ve ilk çalışmanın ise 1980`li yıllarda gerçekleştirildiği keşfedilmiştir. Bu bulgulara dayanarak matematik eğitiminde zihinsel yetersizlik konusunda farklı yöntemlerin kullanılması, farklı örneklem grupları ile çalışmalar yapılması, matematik eğitimi ve özel eğitim alanında uzman araştırmacıların ortak çalışmalar yapması ve dolayısıyla bu konuda yapılan çalışmaların artırılması önerilmiştir.

Anahtar Kelimeler: Matematik Eğitimi, Özel Eğitim, Zihinsel Engelli Öğrenciler, İçerik Analizi

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INTRODUCTION

Education is a phenomenon that has been handled in various ways by various branches of science and continuing since the beginning of human history. Sociologists; they define the education as individuals' adaptation to the society they live in, them adopting and sustaining the culture of that society. According to psychologists and educators, education is there to regulate the necessary opportunities to maximize the abilities and interests within an individual (Gül, 2004). The concept of education suchlike can be handled and defined in many ways. However different the perspectives can be, there are always individuals in the core of all perspectives (Ergün, 2015, p. 1). The individual goes through specific educations from birth to death and the role of education in the development process of the individual cannot be neglected (Tezcan, 1985, p. 50).

The concept of education is not aimed at a specific mass. There are also special individuals who do not show normal development compared to their peers. In our country, there are Special Education Institutions for the education of special individuals and Special Education Institutions Regulation for the functioning of these institutions.

According to the Special Education Regulation of the Ministry of National Education [MoNE] (2018, p. 2), special education stated as *'education programs developed to meet the education and social needs of individuals that shows significant difference in terms of individual and developmental characteristics with educational qualifications compared to their peers and continued education with specially trained educators in appropriate environment.* In the same regulation, the individual who is

in need of special necessities is defined as the individual who show significant difference compared to their peers in terms of individualistic and developmental characteristics with educational competencies.

Individuals in need of special education; diversify as learning disabilities, motor speech disorders, pervasive developmental disorder, attention deficit, physical disability, lack of hearing, visual disability, mental deficiency and special ability. Detailed explanations about individuals in need of special education are available in the relevant regulation. In this study, researches about mental disability were analyzed. According to Luckasson et al.'s study, conducted in 2002, mental disability is a disability defined as meaningful differences, which is found in both of the adaptive behaviours and shows itself in mental functions and cognitive, social and practical adaptive skills (retrieved from Şahbaz, 2005). This deficiency was evaluated by MoNE (2018) at four levels:

1- **Low Level Mentally Disabled Individual:** Individuals who need limited education with special education and support education services due to their mild deficiency for mental functions and cognitive, social and practical adaptation skills**.**

2- **Middle Level Mentally Disabled Individual:** It is an individual who heavily needs special education and support education services in the acquisition of basic academic, daily life and work skills due to the limitedness of mental functions and cognitive, social and practical adaptation skills.

3- **Advanced Level Mentally Disabled Individual:** It is defined as an individual who needs lifelong, consistent and intensive special education and support education in all aspects of life, including the teaching of self-care skills, due to his lack of mental functions and cognitive, social and practical adaptation skills.

4- **Very Advanced Level Mentally Disabled Individual:** Besides mental deficiency, it is an individual who needs life-long care and supervision, who cannot gain self-care, daily life and basic academic skills.

Although the education of individuals with mental disabilities base on inclusion, it can also be achived by oppening special education institutions or special education classes for these individuals. Moreover, complementary training activities can be organized apart from formal education hours (MoNE, 2018). The educational program for individuals with mental disabilities includes preparation of cognitive skills, self-care skills, daily life skills, social adaptation skills, language, speech and alternative communication skills, psychomotor skills, social life, Turkish and mathematics modules (MoNE, 2008). Among these modules, it is seen that in the program mathematics with 17% is the most intensive module after Turkish.

Mentally Disabled Individuals's Mathematics Education

Mathematics expresses abstract concepts when examined with regard to its definition and the fields it is studied on. When these abstract concepts become concrete in the minds of individuals, it helps individuals to reach a solution for the problems encountered during their daily life. Here, mentioned individual are not just the individuals who develop normally. It is stated that every individual can learn in mathematics teaching programs in our country. In other words, it is meaningful to learn mathematics for individuals who are mentally disabled as well as individuals who go through a healthy mental development for helping them to be able to cope with their problems in daily life (Cantimer, 2015).

With the awareness about special education, it is ensured that individuals feel valuable and thus it is aimed to win them back to daily life. One of the effective ways to achieve this is stated as mathematics teaching (Yıkmış, 2007, pp. 12-13). Therefore, the need for mathematics for individuals with mental disabilities becomes a necessity rather than a preference for them to be able to adapt to the society they live in and to meet their needs. Individuals with mentally disabilities who learn mathematics come to the level of being able to solve simple problems they encounter in their environment. This contributes to their development of cognitive process skills as well as helping them to survive without being dependent on anyone.

The fact that they are different from the normal individuals requires a different planning of curriculum for mental disabled individuals. In other words, based on the individualization of education, individualized teaching programs has been started to be developed. These programs are a general teaching plan that is shaped according to the level of students' needs, explaining how the objectives of the students should be achieved and clearly specifying what the teacher should do. In the preparation of individualized curricula, students' performance level, short and long term goals, educational goals, planning and evaluation of the teaching process should be taken into consideration. However, in mentally disabled students' mathematics; The aim of this course is to achieve for mentally disabled to make simple calculations, to learn shape information and concept information, to make measurements, to solve problems and to make four operations, to write and to pronounce numbers, to pronounce the symbols, rhythmic counting, to express the relations between the entities. These behaviours are effective in ensuring that students with disabilities become successful in life and in school.

As a result of the researches conducted in the field of mathematics in our country one generally encounters studies that measures basic skills. Especially in teaching mathematics to mentally disabled individuals; it is discovered that, methods such as point determination technique, direct instructional technique, interaction unit method, cascading method, concurrent clue method, fixed waiting time teaching method, schema based strategy method were used. Kroesbergen, Evelen, VavLuit and

Naglieri (2003) emphasized the importance of the method used in mathematics teaching for students with special needs and suggested that the most appropriate method is direct teaching method. On the other hand, experimental studies on the effectiveness of different methods to each other or investigating the affective characteristics of students is found to be quite limited. In spite of this, we can easily state that the studies in mathematics with the students who have mental deficiency have gained momentum recently. Some of these studies suggest that mathematics teaching is beneficial in ensuring that students with mental disabilities are successful in their lives (Browder, Spooner, Ahlgrim, Harris & Wakeman, 2008; Cawley, 2002). In addition, some researchers suggest that student' success is due to the teaching style, teacher or teaching content rather than their own deficiencies (Ahlgrim-Delzell, Knight, Jimenes & Agnello, 2009; Browder et al., 2008). On the other hand, there are also researchers who claim that learning disability is caused by students' mental development (Hasselbring, Goin & Bransford, 1988). The common concern of all studies is to investigate the existence of interchangeable or curable conditions for students in need of special education and to question the applicability of them.

Purpose

In this study, it is aimed to analyse the mental disabilities in the field of mathematics with regards to different variables such as research method, data collection tools, data analysis, sample type, sample size, researchers' area of expertise and distribution of studies through years. For this purpose, the literature in question has been analyzed and reached a limited number of studies. It can be asserted that, the researchers who want to work on mental disability have faced difficulties such as permission, ethical principles, difficulty of sampling, and sample limitation. These difficulties cause a large gap in the field of mathematics education related to mental deficiency. To almost all of the articles and master's thesis in the field of mathematics education related to mental disability in our country have been tried to be accessed and presented by summarizing in an organized way. This situation is important for the researchers interested in the subject. In accordance with the purpose of the study, the following questions are sought:

Applied to the mentally disabled students in Turkey in the mathematics education;

1- What are the research methods often used for the studies?

2- What are the data collection tools often used for the studies?

3- What are the data analysis methods often used for studies?

4- What are the sample types often used for studies?

5- What is the sample size often used for studies?

6- What is the researchers' area of expertise, who execute the studies?

7- How is studies' distribution of studies through years?

METHOD

Research Model

In this study, it is a descriptive survey model study as it is aimed to examine the studies in the mathematics education related to mentally retarded students in terms of various variables. The descriptive survey model is a model used in studies aiming to describe a situation generally as it is (Karasar, 2016, p. 109).

Sample

The sample of this research consists of articles and graduate thesis written in Turkey in the mathematics education for mentally disabled students. In this study, books on research are not included. Because reaching books is difficult and costly. In these studies articles coded as M1 ,..., M20; master's thesis coded as YLT1 ,..., YLT28; and doctorate thesis coded as DT1,…, DT8. The distributions of the studies are given in Table 1.

Table 1. Analyses of studies in terms of study type

Study Type	F	%
Article	20	35,71
Master's Thesis	28	50
Doctorate Thesis	8	14,28
Total	56	100

Within the scope of these studies, the content of a master's thesis has been attained partially, and only data collection tools and data analysis methods have not been received. However, it was found appropriate to be included in the study due to the fact that the study was in line with the purpose of this study and had information about other variables. Therefore, this study is specified as another column in the data collection tool (Table 4) and data analysis method (Table 5) on analysis tables.

Data Collection Tool and Process

In this study, studies performed in Turkey in the mathematics education for mentally disabled students; analyzed according to research method, data collection tools, data analysis, sample type, sample size, researchers' area of expertise and distribution of studies through years. In table 1 from studies to articles, via Dergipark, Ulakbim, Google Academic web sites; to master's theses via research engine of Higher Education Institution has been reached. In National Thesis Center, two of the three theses that were restricted to access were obtained from the library of the university where they were written, and one was reached through a thesis advisor.

During the collection of the data, codes were prepared by researchers by analysing each study and these codes were converted into a form in Table 2 together with their categories.

Table 2. Data Collection Tool

		RESEARCH METHOD			DATA COLLECTİON TOOLS				DATA ANALYSİS				SAMPLE				SAMPLE SİZE					RESEARCHERS' AREA OF EXPERTISE	RESEARCHERS' NAME
Code Of Researches	Year of Publication	Qualitative	Quantitative	Mixed	Scale	Interview	Observation	Document	Quantitative Data Analysis	Descriptive Analysis	Content Analysis	Grafical Analysis	Student	Teacher	Prospective Teacher	Family	Between 1-5	Between 5-10	Between 10-15	Between 15-30	30+		
M1																							
M2																							
M3																							
...																							
YLT1																							
YLT2																							
YLT3																							
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DT1																							
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Content analysis method was used as data analysis method for the research. The main purpose of content analysis is to reach the concepts that can explain the collected data. The data gathered for this purpose should be conceptualized first, then it should be arranged in a logical manner according to the emerged concepts and the themes explaining the data should be determined accordingly (Yıldırım & Şimşek, 2011, p. 242).

The analyzed articles were analyzed simultaneously by another researcher. Then, the analyses were compared and it was determined that the results showed that complete consistence was achieved.

FINDINGS

In this section, analyses made related to mentioned studies' research method, data collection tools, analysis methods, sample type, sample size and the researchers' area of expertise are each given under different headings. In addition, the distribution of analyzed studies through years are analyzed and graphically shown.

Research Method Analysis

In this section, the methods of the studies were analyzed in detail and the methods were grouped in three parts as qualitative, quantitative and mixed (Table 3).

Table 3. Method Analysis of Studies

Research Method	**F**	**%**
Qualitative	49	87,4
Quantitative	6	10,71
Mixed	1	1,78

When Table 3 is analyzed, it is seen that 49 out of 56 studies are with qualitative method, 6 of them are with quantitative method and only one of them is shaped with mixed method. It was discovered that 20 out of 49 qualitative method studies were articles, 23 were master's theses, and 6 were doctoral theses. 5 of the quantitative method studies were discovered to be master's theses and only one of them was doctoral thesis. It is seen that the study using mixed method is a doctoral thesis. In other words, it would not be wrong to say that the researchers have adopted a qualitative approach compared to quantitative and mixed methods. In addition, it was realized that all articles analyzed were conducted only with qualitative approach. The majority of qualitative studies were found to be performed according to single subject patterns.

Analysis of Data Collection Tools

In this section, the data collection tools used in the studies were determined and it was seen that four different data collection tools were combined in different ways as stated in Table 4.

Table 4. Data Collection Tools Analysis of Studies

Data Collection Tools	**F**	**%**
Scale	36	62,28
Interview	9	16,07
Observation	2	3,57
Document	2	3,57
Observation + Interview	3	5,35
Scale + Interview	1	1,78
Scale+Interview+Document+Observation	2	3,57
Other	1	1,78

When Table 4 is analyzed, it was determined that four different data collection tools such as scale, interview, document and observation were used in the studies conducted in the related field. 36 of these studies carried out the research only by scale, 9 only by interview, 2 only by observation and one only by document. Of the 36 researches using scale, 11 of them are articles, 19 of them are master's theses, and 6 of them are doctoral theses. Only 3 of the researches using interview are articles and the rest are master's theses. Studies conducted using only observation and document are articles. In addition, two of the studies that use interview and observation together are articles and one of them is a master's thesis. Finally, it was seen four different data collection tools were used in a doctoral thesis.

Analysis of Data Analysis Methods

The data analysis methods used in the studies are analyzed and these analysises are summarized in Table 5. As can be seen in the table, it can be stated that four different analysis methods are used.

Table 5. Analysis of Studies' Data Analysis Methods

Data Analysis Methods	**F**	**%**
Quantitative Data Analysis	6	10,71
Descriptive Analysis	4	7,14
Content Analysis	7	12,5
Graphical Analysis	36	64,28
Content Analysis+ Graphical Analysis	1	1,78
Quantitative Data Analysis + Content Analysis + Descriptive Analysis	1	1,78
Other	1	1,78

The distribution of the studies analyzed is seen in Table 5. It is seen that the most preferred one of them is ($n = 36$) graphical analysis. 14 of these studies are articles, 16 are master's theses and 6 are doctoral thesis. In a master's thesis, both content analysis and graphical analysis were used together. In a doctoral thesis, mixed research was conducted quantitative data analysis, content and descriptive analyses were used. In a master's thesis, data analysis method was not determined specifically.

Sample Type Analysis

In this section, the studies examined were analyzed according to which masses they preferred when selecting samples.

Table 6. Sample Type Analysis of Studies

Sample	**F**	**%**
Student	41	73,21
Teacher	11	19,64
Parent	1	1,78
Parent + Teacher	1	1,78
Documents	2	3,57

When Table 6 is analyzed, it is seen that most of the studies in the related field students are preferred as (n = 41) sample (14 articles, 20 master's theses, 7 doctoral theses). On the other hand, it is determined that, while 11 studies (4 articles, 6 master's thesis, 1 doctoral thesis) were conducted with teachers, only one study was conducted with parents. It was determined that the study with parents was a master's thesis. On the other hand, it is observed that in a master thesis, the study was conducted with parents and teachers. In an article in which meta-analysis and an article in which descriptive analysis study conducted documents were used as a working group. It also attracted notice to the fact that there were no studies on prospective teachers in the relevant field.

Sample Size Analysis

In this section, it was analyzed how many people were preferred as sample size and five separations were determined for sample size.

Table 7. Sample Size Analysis of Studies

Sample Size	**F**	**%**
Between 1-5	36	64,25
Between 5-10	5	8,92
Between 10-15	2	3,57
Between 15-30	7	12,5
30 and more	6	10,71

According to the researches analyzed according to Table 7, 36 of the researches have been studied with a sample of 1-5 people. Of these 36 studies, 14 of them are articles, 17 of them are master's thesis, and 5 of them are doctoral thesis. On the other hand, with from 5 to 10 people studied samples, 2 of them are articles, 2 of them are master's theses, 1 of them is a doctoral thesis. It was determined that with from 10 to 15 people studied samples there are two articles. It has been determined that, there are 1 article, 5 master's theses and 1 doctoral thesis with from 15 to 30 people studied samples. Of the 5 researches studied with 30 and more samples, 4 of them are master thesis, 1 of them is doctoral thesis, 1 of them is article. From these findings, it can be said that the majority of the studies conducted in the field related to the research were worked with a small number of samples.

Researchers' Expertise Area Analysis

In this section, the expertise area of the researchers, whose studies are analyzed, have been determined and it has been revealed that these researchers are consist of experts from four departments.

Table 8. Researchers' Area of Expertise Analysis

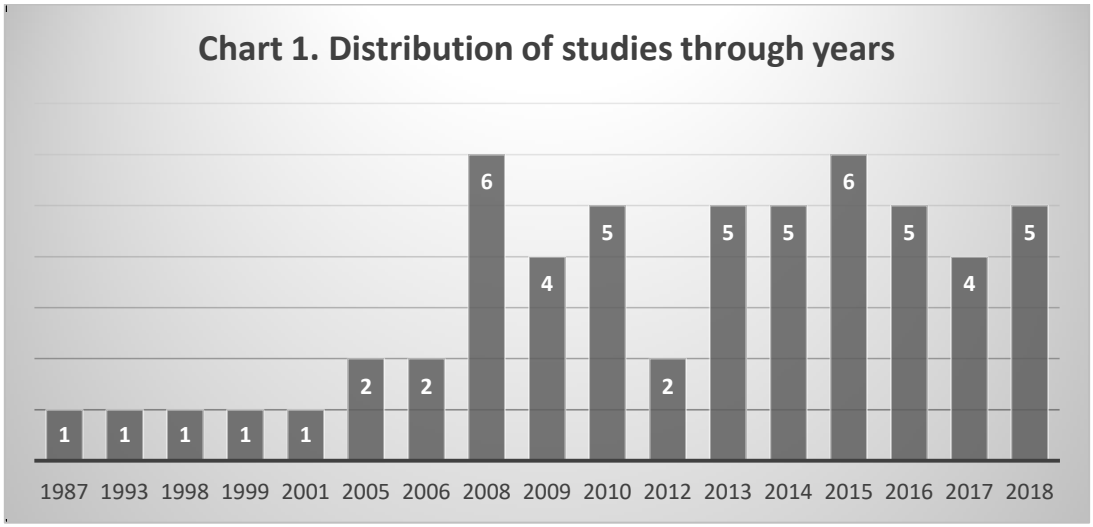
Reserchers' Area of Expertise	**F**	**%**
Special Education Department	44	78,5
Educational Sciences Department	2	3,57
Mathematics Education Department	9	16,07
Computer Engineering Department	1	1,78

According to Table 8, it was found that most of the studies in the related field were carried out by special educators (n = 44). The distributions of 44 studies conducted by special educators are; 19 articles, 21 master's theses, 4 doctoral theses. 2 of these studies were doctoral thesis conducted by experts in the field of Educational Sciences. To 9 studies reached conducted by experts in the field of Mathematics. One of these 9 studies is article, 6 of them were master's theses, 2 of them were doctoral

theses. In addition, it was determined that a master's thesis was conducted by a specialist researcher in the field of Computer Engineering.

Distribution of Studies through Years

In this section, it is determined when were these studies conducted and is presented graphically.



In this study, it can be said that according to the first research reached, researches started with a master's thesis which was conducted in 1987. As can be seen in Chart 1, it can be stated that the number of studies does not exceed 6 per year and then it increases relatively after 2008. It was determined that the most recent study on the subject of research was an article and was done on 26.12.2018. In addition, when considered this number includes both articles and master's thesis, it is clear that there are limited number of studies.

DISCUSSION AND CONCLUSION

In this study, it is aimed to analyse the studies made in the field of mathematics teaching with mentally disabled students in terms of various variables. These variables are research method, data collection tools, data analysis methods, sampling, sample size, researchers' area of expertise and the distribution of studies through years which are used in researches.

When distribution of the research conducted in Turkey in the field of mathematics teaching with mentally disabled students analyzed it can be stated that, the number of articles are less than the number of master's theses'. As a matter of fact, only two of these articles were derived from a thesis and no other articles derived from a thesis were found. In most of these studies, it was discovered that, qualitative research methods were preferred. In addition, studies using qualitative research methods mostly used single-subject research designs (Table 3). It is believed that such a preference is made because of the difficulty of working with the sample mass or the need for a more in-depth analysis of such studies. Moreover, the sample size in studies supports this idea (Table 7). Because in qualitative researches a subject, event or case is analyzed profoundly, studying with a large number of samples is

not preferred (Yıldırım & Şimşek, 2011, p. 114). It has been stated that a single subject was used in most of the special education researches conducted abroad and single-subject researches showed more effective results than group studies (Browder et al., 2008).

It is seen that, most studies using qualitative research method prefer scale as data collection tool. It was also discovered that the interview method was mostly used with other data collection tools such as observations and documents (Table 4). The method used in the analysis of collected data has attracted attention. Graphical analysis method was preferred in the majority of studies (Table 5). Graphical analysis is a method, especially used in single subject studies, in which visual data are analyzed (Tawney & Gast, 1984).

It can be due to the majority of studies being conducted with a single subject, but samples are students. The teaching process has various components including teachers, students, parents and school environment (Yackel & Cobb, 1996). On the other hand, the researchers argue that the education system has three basic elements, which are teacher, student and program (Sönmez, 2003). Sönmez (2008, p. 281), who describes the teacher as the dynamic of the teaching process, argues that the teacher factor plays a very important role in educational research. It is important for teachers to continuously evaluate the mathematical performance of students with special needs and to give feedback to improve the quality of teaching (Kroesbergen et al, 2003). In this study, it is determined that a limited number of studies are conducted with teachers, especially with parents, in the studies conducted with mentally disabled people. In addition, it attracted attention that, with special education teacher candidates there has been no studies made in the field of mathematics education. Kahyaoğlu and Yaygın (2007) in their study revealed that, teacher candidates see themselves insufficient in fields of determining students who are in need of special education and carrying out special teaching methods and techniques for them. Additionally, it was determined that students in institutions, which are in cooperation with parents, have showed improvement in mental development and cognitive development and over time they had less need for special education (Çelenk, 2003).

Finally, researchers' conducting the studies in the field of mathematics teaching with mentally disabled students in Turkey expertise mostly center upon the Department of Special Education (Table 8). Particularly, it is thought that it would be useful for researchers whose area of expertise is mathematics to be involved in such studies. Therefore, it is important to support special education studies with the relevant field experts. It was discovered that, a study was conducted by a researcher in the field of computer engineering. This study is a master's thesis on the teaching of mathematics subjects to students with mental disabilities through a distance education program established in a school. There are ideas in the literature that a computer supported education to students with special disabilities can be very useful (Kroesbergen & Van Luit, 2003). From this point of view, because there is only one study in our country, which is conducted with computer supported education makes it come to surface that, there is a massive gap related to this literature.

SUGGESTIONS

With this study, it is aimed to reveal the tendency of studies in the field of mathematics teaching with mentally disabled students in our country. In addition to the national perspective presented in the relevant literature, a richer structure can be put forward by analysing international studies.

Individuals with mental disabilities are among the most popular masses in special education. Moreover, for a mathematics module intensively appear in education program, 56 researches across Turkey is not thought to be enough. If we get to the bottom of researches, because there is little or no study about teacher candidates, teachers and parents it is thought to be necessary to diversify the sample type. Thus, this issue will be more widely represented in the literature.

Besides, it is recommended that both special education and mathematics education experts work together on the basis of the results obtained in terms of researchers' expertise. Finally, considering the benefits of computer-supported teaching, it is thought that it would be beneficial to increase the studies on this subject.

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