



A systematic review of the thesis on language and communication skills of individuals with autism spectrum disorder

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Abstract. This study is a content analysis study in which thesis indexed in YÖK National Thesis Center of Turkey about teaching language and communication skills in autism spectrum disorder are examined in terms of various variables. For this purpose, 17 open-access theses were obtained based on an extensive search and examined. The results of the research were arranged according to sub-problems and presented in descriptive form as frequency and percentage tables. This study aims to determine the current trends in the postgraduate thesis written on teaching language and communication skills to individuals with ASD between the years of 2014 and 2019. The postgraduate thesis were analyzed based on previously determined content analysis criteria including year of publication, thesis level, title of thesis supervisor, university, institute, department, research method, participants, number of native and foreign references, location and research subject. When the needs of families with children with autism spectrum disorder or at risk are considered in our country, it is clearly seen how much work is needed and how important these studies are. Supporting teaching practices that take into account the individual differences of individuals with autism, conducting new researches and comparing the results, will develop new perspectives and contribute to the literature.

Keywords: Autism spectrum disorder, thesis, content analysis, review

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INTRODUCTION

Autism spectrum disorder (ASD) is defined as a lifelong deficiency in the early stage of development that is manifested by deficiencies in social communication and interaction, limited, repetitive behavior patterns, obsessions and interests or activities (American Psychiatric Association, 2013). According to DSM-V (Diagnostic Statistical Manual of Mental Disorder-V) diagnostic criteria, autism is currently classified as mild, moderate and severe. These levels are described respectively. When mild individuals do not receive support, they experience difficulties in initiating social interactions, visible disturbances in social interactions and failures to communicate. Moderate and severe deficiencies in verbal and non-verbal communication skills are seen in moderate individuals and they give little response or unusual response to communication attempts. Those classified as third and final level experience severe deficiencies in verbal and nonverbal social communication skills (Lord & Bishop, 2015; Kizir & Yıkmiş, 2016; Mazurek, Lu, Macklin & Handen, 2019).

Children with ASD experience some difficulties during the pre-linguistic developmental stages (Bedford, Pickles & Lord, 2015). According to Flippin and Watson (2018), the language skills of children with ASD vary and are heterogeneous. Common attention is the ability to coordinate attention among people, objects and events in the social environment. Common attention skill is a skill that distinguishes children with ASD in the preschool period from children with normal development. Common attention can be used to predict the simultaneous and future language skills of children with ASD. Children with ASD show less interest in adult facial expressions than children with normal development. Even in adulthood, they have problems in recognizing complex emotions, arranging and expressing emotions, making eye contact with others (Samson, Huber & Gross, 2012; Ökcün-Akcamuş, 2016).

The most defining characteristic of autism, which is also defined as a communication problem, is the difficulty in establishing the relationship which is the basic element of

communication. The most prominent feature in children with autism is the lack of language development. Although speech develops in children with ASD, the functional use of the language is might be minimal or absent. Their ability to mimic sounds and movements is weak and they may experience difficulties in distinguishing objects (Tepeli & Karadeniz, 2013).

There are research results showing that all dimensions of language are at different levels in children with ASD. Due to the difficulties in the early diagnosis of ASD, the number of studies aimed at examining phonological development, which is one of the early stages of language development, is limited (Mitchell et al., 2006). Rapin, Dunn, Allen, Stevens, and Fein (2009) stated that some individuals with ASD may have phonological deficiencies while others do not. Children with ASD also have difficulty in syntactic development and find it difficult to combine meaningful words. There are different results in semantic studies in children with ASD. They also have difficulty in understanding certain verbs (such as knowing, thinking, remembering) that refer to mental states (Eigsti, Marchena, Schuh, & Kelley, 2011).

In individuals with ASD, a sentence, phrase or repetition of a word is seen. This is called “echolalia”. The condition that an individual with ASD repeats a sentence, word or word heard one or a few hours after the event is called “delayed echolalia”. Delayed echolalia can occur even after days or weeks (Kaçar, 2012). Children with ASD who experience language and communication delays have different characteristics and therefore need intervention. The complexity of the language system, its relationship to language and other areas of development make early intervention important (Landa, 2007; Kaiser & Roberts, 2011; Lobban-Shymko, Im-Bolter & Freeman, 2017; Selimoğlu & Özdemir, 2018). When the importance of language and communication skills for children with ASD to participate in social life and maintain their lives independently is considered, it is crucial to enhance these skills in ASD.

For these mentioned reasons above, supporting the language and communication skills of children with ASD, the methods to be used during the support to be given, and the characteristics of the methods gain importance. It is extremely important to carry out scientific studies in order to correctly identify the problems in a field and to produce the right solutions to the problems. It is a fact that there are also important problems in teaching language and communication skills to individuals with ASD. The scientific studies conducted in the field, in order to put forward the problems correctly and determine the appropriate solutions for these problems; the postgraduate thesis plays a major role in the development of method-techniques and training tools. In this context, it is aimed to be a guide for the researchers who will work in this field and to determine the distribution and orientation of the subjects of environmental education over the years and to be the source for the researches about the environment. Therefore this study aims to determine the trends in the postgraduate thesis written on teaching language and communication skills to individuals with ASD. In line with this aim, answers to the following questions were sought in this study:

1. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to year of publication?
2. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to thesis level?
3. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to title of thesis supervisor?
4. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to university?
5. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to institute?
6. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to department?
7. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to research method?
8. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to participants?

9. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to number of native and foreign references?
10. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to location?
11. What is the distribution of the postgraduate thesis on language and communication skills in ASD according to research subject?

METHODS

Research Model

Document analysis method was used in this study. Document analysis approach is evaluated within the scope of qualitative research. In this respect, this research is a qualitative study. Document analysis includes the analysis of written and printed documents on the topics to be studied (Yıldırım & Şimşek, 2006). Document review involves the analysis of written materials that contain information about the phenomenon or facts intended to be investigated (Yıldırım & Şimşek, 2013).

According to Şimşek and Yıldırım (2011); document analysis is the analysis of the written materials containing information about the cases. There are two types of document analysis which are general survey and content analysis. Content analysis is carried out for the purpose of quantifying certain features of a particular book or document by quantifying the components (Karasar, 2005). Through content analysis method, quantitative and qualitative researches are examined and general trends in the field are determined (Çalık & Sözbilir, 2014).

Population and Sample

The population of the research includes 21 postgraduate thesis carried out in Turkey. Not all thesis have been reached due to the limitations in the fact that they are not open to the reader. For this reason, the sample of the research consists of 17 postgraduate theses which are open-access 2017 and 2019. The study started in 2014 because the first postgraduate thesis was open-access in 2014.

Data Collection

The data obtained in this study were collected in September 2019 by using the thesis archive link on the web page of the Council of Higher Education (YÖK). For this purpose, "Simple Search" option was selected on the national thesis center page of YÖK's official website and permission status was written as "allowed". In this aspect, 17 postgraduate theses were recorded in pdf format on computer.

Data Analysis

In this research, four main stages were followed: (1) Accessing documents, (2) Understanding documents, (3) Analyzing data and (4) Using data. In the analysis of the data obtained from the thesis documents, frequency tables were used to describe. In this study, it was aimed to combine basically similar data by gathering them within the framework of certain concepts and themes and organizing them in a way that the reader can understand. Postgraduate thesis obtained with the method of document analysis were analyzed frequency and percentage calculations using the various features and interpreted.

RESULTS

The results obtained in the study were analyzed on the basis of research questions and presented in this section.

Distribution of thesis on teaching language and communication skills in ASD according to year

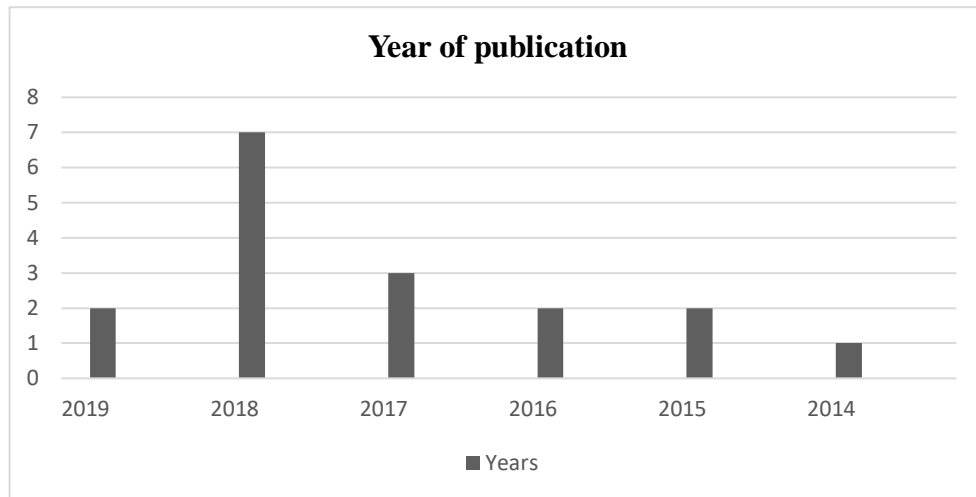


FIGURE 1. *Distribution of thesis according to year of publication*

Figure 1 shows the distribution of postgraduate thesis on teaching language and communication skills in ASD by year of publication. Results showed that there are postgraduate thesis between 2014 and 2019. As it can be seen, there is a steady increase in the studies especially in the last years. However, it is also seen that there are high number of studies in 2017 and 2018

Distribution of thesis on teaching language and communication skills in ASD according to thesis level

Table 1. *Distribution of thesis according to thesis level*

Thesis level	f	%
Master thesis	13	76.5
Doctorate thesis	4	23.5
Total	17	100

As it can be seen from Table 1, most of the postgraduate thesis written on teaching language and communication skills in ASD are master thesis (f=13; 76.5%) and 4 of the postgraduate thesis are doctorate thesis (f=4; 23.5%) between the years of 2014 and 2019.

Distribution of thesis on teaching language and communication skills in ASD according to title of thesis supervisors

Table 2. *Distribution of thesis according to thesis level*

Title of thesis supervisor	f	%
Prof. Dr.	6	35.3
Assoc. Prof. Dr.	8	47.1
Assist. Prof. Dr.	3	17.6
Total	17	100

Table 2 shows the distribution of postgraduate thesis written on teaching and communication skills in ASD according to title of thesis supervisors. According to the results, it

is seen that most of the postgraduate thesis are supervised by supervisors with the title of Assoc. Prof. Dr. (f=8; 47.1%).

Distribution of thesis on teaching language and communication skills in ASD according to university

Table 3. *Distribution of thesis according to university*

University	f	%
Necmettin Erbakan University	1	5.9
Okan University	1	5.9
Ankara University	4	23.5
Gazi University	2	11.8
Middle East Technical University	1	5.9
Abant Izzet Baysal University	2	11.8
Anadolu University	3	17.6
Istanbul Aydin University	1	5.9
Meliksah University	1	15.9
Afyon Kocatepe University	1	5.9
Total	17	100

As it can be seen from Table 3, there are various universities in which postgraduate thesis studies related with teaching language and communication skills are carried out. Results indicated that Ankara University has the highest number of thesis (f=4; 23.5%) among these universities.

Distribution of thesis on teaching language and communication skills in ASD according to institute

Table 4. *Distribution of thesis according to institute*

Institute	f	%
Institute of Educational Sciences	11	64.7
Institute of Social Sciences	4	23.5
Institute of Health Sciences	2	11.8
Total	17	100

When the results on Table 4 are examined, it is seen that 11 postgraduate thesis were written in Institute of Educational Sciences, 4 of thesis were written in Institute of Social Sciences and 2 of them were written in Institute of Health Sciences.

Distribution of thesis on teaching language and communication skills in ASD according to department

Table 5. *Distribution of thesis according to department*

Department	f	%
Special Education	9	52.9
Psychology	2	11.8
Autism	1	5.9
Child Development	1	5.9
Computer Education and Instructional Technologies	1	5.9
Applied Behavioral Analysis in Autism	1	5.9
Physical Education and Sports	1	5.9
Music		
Total	17	100

Table 5 shows the distribution of thesis according to department. As it can be seen from the table, most of the postgraduate thesis are written in the department of special education (f=9, 52.9%). The remained and most frequent department was the department of psychology (f=2, 11.8%) and the remained thesis were with less frequencies.

Distribution of thesis on teaching language and communication skills in ASD according to research method

Table 6. *Distribution of thesis according to research method*

Research Method	f	%
Qualitative method	2	11.8
Quantitative method	3	17.6
Single-subject method	10	58.8
Experimental method	1	5.9
Mixed method	1	5.9
Total	17	100

Table 6 shows the distribution of thesis according to research method. As it can be seen from the table, most of the postgraduate thesis used single-subject method (f=10, 58.8%). The other remained and most frequently used research method were quantitative (f=3, 17.6%) and qualitative research method (f=2, 11.8%).

Distribution of thesis on teaching language and communication skills in ASD according to participants

Table 7. *Distribution of thesis according to participants*

Participants	f	%
Individuals with autism	13	76.5
Special education teachers	2	11.8
Individuals with autism and their peers	1	5.9
Families of children with autism	1	5.9
Total	17	100

According to the results, majority of the postgraduate thesis was carried out with individuals with autism (f=13, 76.5%). In addition, the other remained thesis were carried out with special education teachers (f=2, 11.8%), individuals with autism and their peers (f=1, 5.9%) and families of children with autism (f=1, 5.9%).

Distribution of thesis on teaching language and communication skills in ASD according to number of native and foreign references

Table 8. *Distribution of thesis according to number of native and foreign references*

Number of native references	f	%
0-50	12	70.6
51-100	5	29.4
Total	17	100
Number of foreign references	f	%
0-50	3	17.6
51-100	7	41.2
101-150	3	17.
151-200	3	17.6
201-250	1	5.9
Total	17	100

In Table 8, distribution of the postgraduate thesis according to number of native and foreign references are shown. As it can be seen, the mostly used number of native references was between 0 and 50 (f=12, 70.6%).. In addition, majority of foreign references were between 51 and 100 (f=7, 41.2%).

Distribution of thesis on teaching language and communication skills in ASD according to location

Table 9. *Distribution of thesis according to location*

Location	f	%
Ankara	6	35.3
Istanbul	3	17.6
Eskisehir	2	11.8
Konya	1	5.9
Izmir	1	5.9
Erzurum	1	5.9
Adapazari	1	5.9
Bolu	1	5.9
Afyon	1	5.9
Total	17	100

Table 9 shows the distribution of thesis according to location. As it can be seen, most of the postgraduate theis were conducted in Ankara (f=6, 35.3%), Istanbul (f=3, 17.6%) and Eskisehir (f=2, 11.8%). When the results are examined, it is seen that these findings are in line with the location of the universities.

Distribution of thesis on teaching language and communication skills in ASD according to research subject

Table 10 shows the distribution of thesis on teaching language and communication skills in ASD according to research subject. As it can be seen, the most frequently studied research subjects are examining language characteristics of individuals with ASD (f=3; 17.6%) and Methods used by special education teachers for supporting language and communication skills of individuals with ASD (f=2; 11.8%). The other remained subjects were with less frequencies and shown in the table.

Table 10. *Distribution of thesis according to research subject*

Research Subject	f	%
Examining language characteristics of individuals with ASD	3	17.6
Methods used by special education teachers for supporting language and communication skills of individuals with ASD	2	11.8
Effect of basic response teaching for developing language skills of individuals with ASD	1	5.9
Effect of peer interaction for developing language skills of individuals with ASD	1	5.9
Effectiveness of tablets for developing language skills of individuals with ASD	1	5.9
Relation of play and imitation skills with vocabulary	1	5.9
Supporting communication skills of individuals with ASD through augmented reality	1	5.9
Gaining language and communication skills to individuals with ASD through activity schedule and scripts	1	5.9
Effect of teaching functional communication for reducing problem behaviors among individuals with ASD	1	5.9
Effect of advanced technologies for enhancing language and communication skills of individuals with ASD	1	5.9

Table 10. Continued

Effect of participating in physical activities for enhancing language and communication skills of individuals with ASD	1	5.9
Effect of auditory scripts and graying for enhancing language and communication skills of individuals with ASD	1	5.9
Views of parents of children with autism towards communication skills of individuals with ASD	1	5.9
Effect of Orff Schulwerk method for enhancing communication skills of individuals with ASD	1	5.9
Total	17	100

DISCUSSION and CONCLUSIONS

This study tried to determine the current trends in the postgraduate thesis written on teaching language and communication skills to individuals with ASD between the years of 2014 and 2019. The postgraduate thesis were analyzed based on previously determined content analysis criteria including year of publication, thesis level, title of thesis supervisor, university, institute, department, research method, participants, number of native and foreign references, location and research subject.

When the results are examined, it was revealed that there is a steady increase in the studies especially in the last years including 2017 and 2018. Results also showed that the number of master thesis written on teaching language and communication skills to individuals with ASD is higher when compared to number of doctorate thesis. In accordance with these results, Eliçin and Diken (2011) stated that there are high number of master thesis on prevalent developmental disorders in the last years.

Results of the current study showed that most of the postgraduate thesis are supervised by supervisors with the title of Assoc. Prof. Dr. In addition, results indicated that Ankara University has the highest number of thesis among these universities. However, Gültekin and Başığit (2018) found that most of postgraduate theses in the field of autism and physical activity are done in Gazi University. Furthermore, results revealed that postgraduate thesis on teaching language and communication skills in ASD are affiliated to institute of educational sciences and department of special education.

According to the results, most of the postgraduate thesis used single-subject method. This result might be due to the fact that single case research designs are frequently preferred research method in educational and behavioral sciences (Ledford & Gast, 2018). Results also showed that majority of the postgraduate thesis was carried out with individuals with autism. In parallel with these results, Dedeoğlu and Yüksel (2017) showed that postgraduate thesis written on autism were carried out with individuals with autism.

Results revealed that the mostly used number of native references was between 0 and 50 and majority of foreign references were between 51 and 100. As it can be seen, most of the postgraduate thesis were conducted in Ankara, Istanbul and Eskisehir. In conjunction with the results provided by Dedeoğlu and Yüksel (2017), it was determined that postgraduate thesis on autism were carried out in Istanbul, Eskisehir and Ankara. The most frequently studied research subjects are examining language characteristics of individuals with ASD and methods used by special education teachers for supporting language and communication skills of individuals with ASD.

Although there has been a significant increase in the number of thesis on teaching language and communication skills to individuals with ASD in recent years, it is not possible to determine that the studies conducted in this field are sufficient for our country. Problems with many sub-topics related to the field still require a great deal of research. It can be said that increasing the number of main branches of teaching language and communication skills to individuals with ASD will directly affect the number and quality of theses to be conducted in this field. In line with the results of the present study, some recommendations are provided for further research. Studies on teaching language and communication skills to individuals with ASD in different academic databases might be examined. This study may be replicated

periodically in order to reveal and compare the trends in postgraduate thesis on teaching language and communication skills to individuals with ASD. A bibliometric study can be done in which the bibliography sections of the theses in the field of ASD and language and communication skills are examined in detail.

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