

| Araştırma Makalesi / Research Article |

Content Analysis of Theory-Based Graduate Theses Published in the Field of Distance Education in Turkey between 2008-2020

2008-2020 Yılları Arasında Türkiye’de Uzaktan Eğitim Alanında Yayımlanan Kurama Dayalı Lisansüstü Tezlerin İçerik Analizi

Mehmet YILDIZ¹, Sinem ÇİLLİGÖL KARABEY², Selçuk KARAMAN³

Anahtar Kelimeler

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2. İçerik analizi
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Abstract

Purpose: To examine the trends in theory-based graduate theses published between 2008-2020 in the field of distance education in Turkey.

Methodology: In this study, which aims to examine theory-based graduate theses published in the field of distance education in Turkey between 2008-2020, systematic literature review was adopted and content analysis technique was used in the analysis of data. 483 theses with access permission in the Council of Higher Education (YOK) national database were examined and 150 theses that were suitable for the research criteria were included in the study. Theses were categorized using the "Thesis Review Form", which has different fields such as thesis type, thesis title, the year the thesis was published, the university where the thesis was published, the variables used in the theses, the science fields of the theses, the theory / model used in the theses, the sample level of the theses and the sample sizes. The data of 150 theses, which are theory-based, were analyzed with the descriptive content analysis technique.

Findings: When the theses included in the study are examined, it has been determined that one of every three theses published in the field of distance education are based on theory. Considering the theoretical basis of the theses, it has been seen that the theories of Social Presence, ARCS Motivation and Interactional Distance were given the most place. While Anadolu University and Gazi University were the universities where the most theses were published, Computer Sciences emerged as the field where the most theses were published. It was seen that academic success and attitude were the most studied variables in the theses. It was concluded that the sample group studied in the theses mostly consisted of students studying at undergraduate and primary education level, and 31-100 participants were preferred more as the sample size.

Highlights: In the study, 150 graduate theses published between 2008-2020 in the field of distance education in Turkey and meeting the research criteria were examined and it was determined that one of these three theses was theory-based. Since this number has been determined to be quite small, it is thought that the findings obtained from this study will be useful for a deeper understanding of the theses that have a theoretical basis in distance education, by providing suggestions for future research, and to contribute to the thesis work or research planned to be done in the future on this subject.

Öz

Çalışmanın Amacı: Türkiye’de uzaktan eğitim alanında 2008-2020 yılları arasında yayınlanan kurama dayalı lisansüstü tezlerdeki eğilimlerini incelemektir.

Yöntem: Türkiye’de uzaktan eğitim alanında 2008-2020 yılları arasında yayınlanan kurama dayalı lisansüstü tezlerin incelenmesini amaçlayan bu çalışmada sistematik alanyazın taraması benimsenmiş ve verilerin incelenmesinde içerik analizi tekniği kullanılmıştır. Yüksek Öğretim Kurumu (YOK) ulusal veri tabanında erişim izni olan 483 tez incelenmiş ve bunlar arasından araştırma kriterlerine uygun olan 150 tez çalışma kapsamına alınmıştır. Tezler; tez türü, tez başlığı, tezin yayımlandığı yıl, tezin yayımlandığı üniversite, tezlerde kullanılan değişkenler, tezlerin bilim alanları, tezlerde faydalanılan kuram/teori/model, tezlerin örneklem düzeyi ve örneklem sayısı gibi farklı alanlarının olduğu "Tez İnceleme Formu" kullanılarak kategorize edilmiştir. Kuramsal bir temele dayalı olan 150 teze ait veriler, betimsel içerik analizi tekniği ile analiz edilmiştir.

Bulgular: Çalışmaya dahil edilen tezler incelendiğinde, uzaktan eğitim alanında yayınlanan her üç tezden birinin kurama dayalı olduğu tespit edilmiştir. Yapılan tezlerin kuramsal temellerine bakıldığında, Sosyal Bulunusluk, ARCS Motivasyon ve Etkileşimsel Uzaklık kuramlarına en fazla yer verildiği görülmüştür. Hazırlanan tezlerin çoğunluğunun yüksek lisans tezinden oluştuğu ve 2014 yılından itibaren ise uzaktan eğitim alanında yayınlanan tez sayısında bir düşüş olduğu tespit edilmiştir. Anadolu Üniversitesi ve Gazi Üniversitesi en çok tezin yayımlandığı üniversiteler olurken, Bilgisayar Bilimleri en çok tezin yayımlandığı alan olarak ortaya çıkmıştır. Akademik başarı ve tutumun ise tezlerde en çok incelenen değişkenler olduğu görülmektedir. Tezlerde çalışılan örneklem grubunun ise en fazla lisans ve ilköğretim düzeyinde öğrenim gören öğrencilerden oluştuğu, örneklem sayısı olarak da 31-100 sayıda kişinin daha çok tercih edildiği sonucuna ulaşılmıştır.

Önemli Vurgular: Çalışmada Türkiye’de uzaktan eğitim alanında 2008-2020 yılları arasında yayınlanan, araştırma kriterlerine uyan 150 lisansüstü tez incelenmiş ve bu tezlerden her üçünden birinin kurama dayalı olduğu belirlenmiştir. Bu sayının oldukça az sayıda olduğu tespit edildiğinden, bu çalışmadan elde edilen bulguların, gelecekteki araştırmalar için öneriler sunarak uzaktan eğitim konusunda kuramsal dayanağı olan tezleri daha derin bir şekilde anlama, bu konuda ileride yapılması planlanan tez çalışması veya araştırmalara katkıda bulunma noktasında faydalı olacağı düşünülmektedir.

¹ Sakarya University of Applied Sciences, Distance Education Application and Research Center, Sakarya, TURKEY; <https://orcid.org/0000-0002-9523-3805>

² Corresponding Author, Ataturk University, Open Education Faculty, Erzurum, TURKEY; <https://orcid.org/0000-0002-8925-9486>

³ Hacı Bayram Veli University, Management Information Systems, Ankara, TURKEY; <https://orcid.org/0000-0002-0493-3444>

INTRODUCTION

In recent years, there have been great changes in technological and scientific developments in our country and in the world. One of the most affected areas by these changes is education (Akpınar, 2003). Intensive studies are carried out on the integration of the facilities offered by technological developments into education (Arat & Bakan, 2011). One of the interdisciplinary applications of the integration of technology into education is distance education. Distance education is spreading rapidly in higher education institutions as well as in all fields with technological developments and offers new opportunities for learners. The main factors affecting this are the features of distance education such as providing opportunities for economy, lifelong learning and individual learning, and being away from the limitations of traditional methods (flexibility, time and place dependence, etc.). With the increasing importance and spread of distance education in different disciplines, studies in this field have started to increase. (Özkul & Aydın, 2013). With this increase, distance education has been compared with face-to-face education and its effectiveness has been discussed, especially in studies (Gökmen et al., 2017; Uygun, 2019). It is stated that distance education, which is seen as a different aspect of the traditional classroom model, can be as effective as face-to-face applications when appropriate technology and methods are used (Bernard et al., 2004; Ward et al., 2010).

The effectiveness of distance education with appropriate technology and methods also depends on being based on comprehensive theories (Moore, 1973). Understanding change, dynamics and perspective in the field of distance education is possible by knowing the theory and practice of the applications in the field (Bozkurt et al., 2015a). In order to be successful in the future in any discipline, it is necessary to understand the past and the present and therefore take advantage of the current situation (Aydın et al., 2020). In this perspective, it is of great importance to reveal the theories in distance education research and to determine to what extent these theories are used. Because the lack of theoretical basis of distance education studies is seen as one of the most important problems in this field (Phipps & Merisotis, 1999). Distance education theories provide guidance for more effective studies by providing a specific perspective on the field (Bozkurt et al., 2019). Including studies with a theoretical basis allows more meaningful questions to be asked and the emergence of studies that will contribute to the field (Holmberg, 2005; Phipps & Merisotis, 1999).

When the studies published in distance education are reviewed, it is stated that the rate of examining the journals and theses published in this field in terms of various variables has increased with the distance education applications that are becoming increasingly widespread today (Gökmen et al., 2017). In these studies, generally; It is seen that variables such as scope, study subjects, methods, theories, data collection tools, data analysis methods etc. are examined. It has been determined that the theoretical structure analysis used in the theses in the distance education studies conducted in our country is limited and the studies conducted abroad are more comprehensive (Anglin & Morrison, 2000; Babur et al., 2016).

In the studies conducted in the literature, studies in which distance education research conducted in terms of tendency were examined. In Table 1, 19 studies in the field of distance education and the content of these studies are summarized chronologically.

Table 1. Content analysis studies in the field of distance education

Order	Author(s)	Studies Reviewed	Language	Scope	Number of Studies	Distribution by Years	Research Method	Sample	Data Collection Tool	Variables	Subject Area	Theoretical Dimension
1.	Koble and Bunker, (1997)	Article	English	1987 1995	129	-	✓	-	-	✓	-	✓
2.	Berge and Mrozowski, (2001)	Article and Thesis	English	1990 1999	890	✓	✓	-	-	-	-	-
3.	Lee, Driscoll and Nelson, (2004)	Article	English	1997 2002	383	-	✓	-	-	✓	-	-
4.	Davies, Howell and Petrie, (2010)	Thesis	English	1998 2007	308	✓	✓	-	✓	✓	✓	-
5.	Zawacki-Richter, Bäcker and Vogt, (2009)	Article	English	2000 2008	695	✓	✓	-	-	✓	-	-
6.	Tuncay and Uzunboylu, (2010)	Article	English	1972 2008	160	✓	-	-	-	✓	✓	-
7.	Ozarslan, Balaban-Sali and Demiray, (2012)	Article	English	2000 2010	582	✓	✓	-	✓	-	✓	-

Order	Author(s)	Studies Reviewed	Language	Scope	Number of Studies	Distribution by Years	Research Method	Sample	Data Collection Tool	Variables	Subject Area	Theoretical Dimension
8.	Horzum, Ozkaya, Demirci and Alpaslan, (2013)	Article	Turkish	2005 2011	35	✓	✓	✓	✓	✓	-	-
9.	Bozkurt et al., (2015a)	Thesis	English	1986 2014	61	✓	✓	✓	✓	✓	✓	✓
10.	Bozkurt et al., (2015b)	Article	English	2009 2013	861	✓	✓	✓	✓	✓	✓	✓
11.	Babur et al., (2016)	Article	Turkish	2009 2013	1233	✓	✓	✓	✓	-	-	-
12.	Durak et al., (2017)	Thesis	English	1986 2015	285	-	✓	✓	✓	✓	✓	✓
13.	Gokmen et al. (2017)	Thesis	English	2005 2014	360	✓	✓	✓	✓	-	✓	-
14.	Zawacki-Richter, Alturki and Aldraiweesh, (2017)	Article	English	2000 2015	580	✓	✓	-	-	✓	✓	✓
15.	Aydin, Kaya, Işkol and Işcan, (2019)	Thesis	Turkish	2002 2018	81	✓	✓	✓	✓	-	✓	✓
16.	Uygun, (2018)	Article	Turkish	2017	41	✓	✓	✓	✓	-	-	-
17.	Bozkurt, Zawacki-Richter and Aydin (2019)	Proceeding	English	2000 2015	784	-	-	-	-	-	-	-
18.	Uygun, (2019)	Article	Turkish	2017 2018	41	✓	✓	-	-	✓	-	-
19	Aydin, Zawacki-Richter and Bozkurt (2020)	Proceeding	English	2000 2015	784	-	✓	-	-	-	-	✓
TOTAL						14	17	8	10	11	9	7

In the content analysis studies given in Table 1, it is seen that mostly articles (12) were examined, most of the studies were in English, and there are many articles or theses published since 1972. Considering the type of theses analyzed in the studies, it was determined that mostly master's theses were included. (Davies et al., 2010; Gökmen et al., 2017; Aydın et al., 2019). Considering the years, it is seen that there are studies covering different years and periods, firstly starting from the study of Koble and Bunker (1997), and then to the present day.

In most of the content analysis researches on the field of distance education, distribution by years and research methods were discussed. It is stated that quantitative research, one of the research methods, is used more widely in distance education. Approximately half of the examined content analyzes included sample size and sample group. It was concluded that the sample group consisted mostly of undergraduate students, lecturers and teachers while the sample distribution was generally in the range of 31-100 (Aydın et al., 2019; Bozkurt et al., 2015a; Horzum et al., 2013). When the most used data collection tools in the studies are examined, it is seen that questionnaires and scales are generally used and interviews are frequently included (Davies et al., 2010; Gökmen, 2017; Horzum et al., 2013; Uygun, 2018).

It can be concluded that the variables frequently used in the analysis process of distance education studies are generally attitude, interaction, opinion, academic achievement, motivation and perception (Bozkurt et al., 2015a; Durak, 2017; Lee et al., 2004; Uygun, 2019). Under the fields of subject title, it is stated that there are mostly Computer Science / Engineering, Education and Training, Science and Technology etc. fields (Bozkurt et al., 2015a; Durak, 2017; Gökmen et al., 2017).

When Table 1 is examined, it is seen that only seven of the 19 studies examined the theoretical dimension/theoretical framework. Although it has an important place in the field of distance education, it is remarkable that the theories are not sufficiently utilized in the studies (Davies et al., 2010). Considering the theories included in content analysis studies; In the study conducted by Aydın et al. (2019), the learning theory, distance education theory and communication theories, in the study by Bozkurt et al. (2015a) technology acceptance model, androgogy, diffusion of innovation theories, in the study by Durak et al. (2017) cognitive learning theory, transactional theory distance and constructivism theories are seen to be used more. In the theoretical dimension, it has been determined that the studies in our country are weak in terms of the theoretical framework

(Horzum et al., 2013). Due to the lack of studies in the field that are not constructed on a theory, there is a need for studies that deal with the theoretical dimension (Davies et al., 2010). Although there were studies that included content analysis in articles or theses in the field of distance education until 2008, no studies have been found that deal with master's and doctoral theses together and examine them with their theoretical dimensions since this year. Bozkurt et al. (2015a), in their content analysis study, examined the doctoral theses in the field of distance education in Turkey between the years 1986-2014 in terms of various variables.

Purpose of the Research and Research Questions

This study differs from the others in that it includes master's theses in addition to doctoral theses and examines current studies in line with digital transformations in education. Because the way to progress in distance education and to carry out more effective studies depends on determining the situation we are in right now (Hauser, 2013). For this reason, it is believed that this study will contribute to a deeper understanding of the theses that have a theoretical basis on distance education by offering suggestions for future research, and to the thesis or research that is planned to be done in the future on this subject. In this context, the aim of the research is to examine the trends in theory-based graduate theses published between 2008-2020 in the field of distance education in Turkey. The study is limited to the open-access theses related to distance education in the national database of YOK. In this direction, the following research questions will be answered within the scope of the study:

Theory-based graduate theses published between 2008-2020 in the field of distance education in Turkey;

1. How is the distribution according to the types?
2. How is the distribution by years?
3. How is the distribution according to the university it is done?
4. What is the distribution of theory/model used
5. What is the distribution of subject areas?
6. What is the distribution of the variables used?
7. What is the distribution according to sample groups?
8. How is the distribution according to sample size?

METHOD

In this section, the research model, sample, data collection process and data analysis are discussed.

Research Model

In this study, which aims to examine theory-based graduate theses published in the field of distance education in Turkey between 2008-2020, systematic literature review was adopted and content analysis technique was used in the analysis of data. Content analysis is a method that enables the reader to understand and interpret the written texts by converting them into numerical data (Bauer, 2003) and classifying these quantities according to certain characteristics (Creswell, 2012). Content analysis enables different types of documents such as articles, books, magazines, novels and pictures to be analyzed in depth for specific purposes (Fraenkel et al., 2012). In addition, the content analysis method is a reproducible method that enables the texts to be analyzed within certain rules and converted into categories (Stemler, 2001).

Sample

The population of this research consists of theses related to distance education in the national thesis center database of YOK. In the research, purposive sampling was used in order to reach a sufficient sample size and to work with current theses. Purposeful sampling is used to select facts, events and situations with certain characteristics and to explore and explain them in depth (Büyükoztürk et al., 2012). In this respect, the sample of the research consisted of a total of 150 distance education theses with open access published between 2008 and 2020. Theses that are not open to access are excluded from the scope of the research due to the difficulty and time consuming of access through YOK or related institutes.

Data Collection Process

As a data collection tool, the "Thesis Review Form" was created in which the theses were recorded according to the determined categories. In this form, which was created through the Microsoft Excel 2016 software, the titles; order number, thesis code, author, thesis name/type, sample number, sample type, variables, subject area, university, theory/theory/model were included respectively. Before the finalization of the categories in the Thesis Review Form, a preliminary study was carried out in order to determine the suitability of the form and its missing parts. In the preliminary study, each reviewer coded 15 randomly selected theses and a total of 30 theses using the Thesis Review Form.

In the process of collecting data within the scope of the research, before entering the search term in the advanced search section of the national thesis center of YOK, the options "scanning the search term in the entire tag of the thesis (thesis name, subject, index, abstract) and the theses published between 2008 and 2020" were selected. In order not to have any thesis that could not be reached, 15 different searches were made by crossing the keywords shown in Figure 1. As a result, a total of 604

theses were found. Since many concepts are used interchangeably in distance education (Guri-Rosenblit, 2005), different keywords were searched in order to reach more studies. The theses reached as a result of the searches were recorded with the thesis code in order to avoid conflict with the theses with similar names and to avoid data loss.

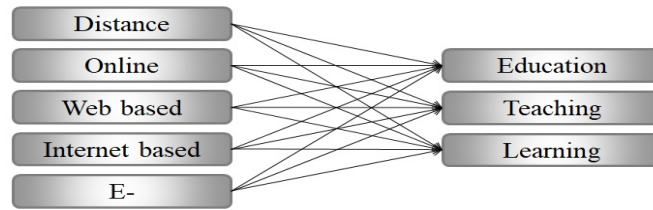


Figure 1. Crossover of search terms

Since the search term was used on a large scale in the systematic search process given in Figure 2, 604 theses were downloaded from the YOKTEZ thesis center database by the researchers. The download process was carried out between 05.05.2020 and 15.05.2020. 150 theses were included in the study, with the removal of studies that could not be accessed, that had the same thesis code or that were not related to the field of distance education, and studies that were not based on a specific theory/theory/model.

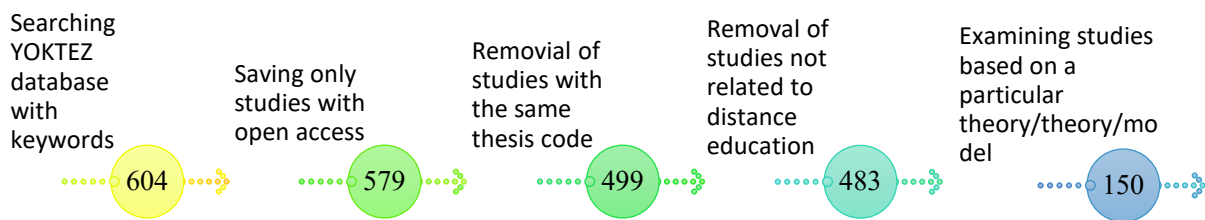


Figure 2. Systematic search process

Analysis of Data

The graduate theses that constitute the data of the study were analyzed by one of the researchers and it was aimed to increase the reliability of the analyzes by controlling them by another researcher. The theses were read carefully and the "Thesis Review Form" prepared for each thesis was filled in separately. Then, the information in the form was converted into codes, categories and graphics using the Microsoft Excel software. In this study, the data of the theses examined by the content analysis method are presented descriptively through graphics and tables. The research and analysis process, which summarizes the collection, analysis and interpretation of study data, is summarized in Figure 3.

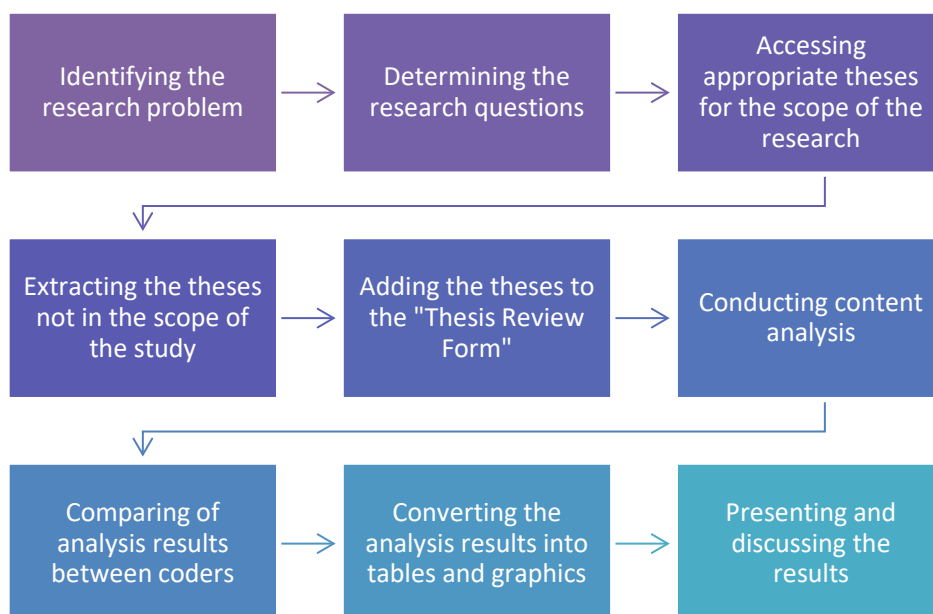


Figure 3. Research and analysis process

Validity and Reliability

Various measures were taken to ensure the validity and reliability of the study. In this context, the data obtained in order to ensure reliability in the study were coded separately by two different researchers and the results were compared. As a result of the comparison, the Cohen Kappa coefficient was calculated in order to determine the reliability. This coefficient expresses the consistency between different raters (Cohen et al., 1996). The following formula was used for the calculation, as suggested by Sim and Wright (2005), where $Pr(a)$ is the total proportion of the observed fit for the two evaluators, and $Pr(e)$ is the probability of this fit occurring by chance.

$$K = \frac{Pr(a) - Pr(e)}{1 - Pr(e)}$$

In the study, the Cohen Kappa coefficient was found to be 0.80, with $Pr(a) = 0.84$ and $Pr(e) = 0.17$, and this rate shows that the study is reliable (Cohen et al., 1996).

Both internal and external validity were taken into account in ensuring the validity of the study. In order to ensure internal validity, which means a clear expression of the path followed in the research process (Yıldırım & Şimşek, 2011), data collection tools, data collection process and analysis stages were written in detail. Within the scope of external validity which is expressed as the generalizability of the research results (Frankel et al., 2011), the study findings were found to be parallel with the literature.

FINDINGS

In this study, which aims to examine the trends in theory-based graduate theses published between 2008-2020 in the field of distance education in Turkey, the data collected through the Thesis Review Form were analyzed in the context of the sub-problems of the study. In this section, the findings obtained in the study are presented in tables under sub-titles in parallel with the research problems.

Distribution of Theses According to Their Types

The types of theory-based graduate theses in the field of distance education in Turkey are presented in Figure 4. When Figure 4 is examined, it is seen that the number of theses done on this subject are mostly at the master's level (79), while the number of theses done at the doctorate (71) level are close to the master's theses.

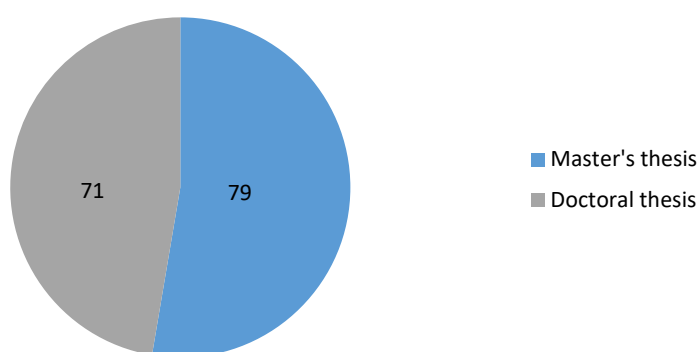


Figure 4. Distribution of theses according to their types

Distribution of Theses by Years

Distribution of graduate theses done in the field of distance education in Turkey and graduate theory-based theses by years is as shown in Figure 5. As it can be seen in Figure 5, the theses done as theory-based (150) out of the graduate theses (483) done in the field of distance education were included in the study because they were suitable for the research criteria. When Figure 5 is examined, it is seen that the highest number of graduate theses on distance education were done in 2010 (60), 2012 (59) and 2014 (55), respectively, and the least number of studies were done in 2016 (23) and 2018 (26). Since theses were accessed on May 2020 (2), the number of graduate theses included in this year is the lowest. The number of theory-based theses was the highest in 2012 (19), 2014 (18) and 2009 (17), respectively; In 2008 (7), 2013 (8) and 2018 (8) it is seen that the number is the least.

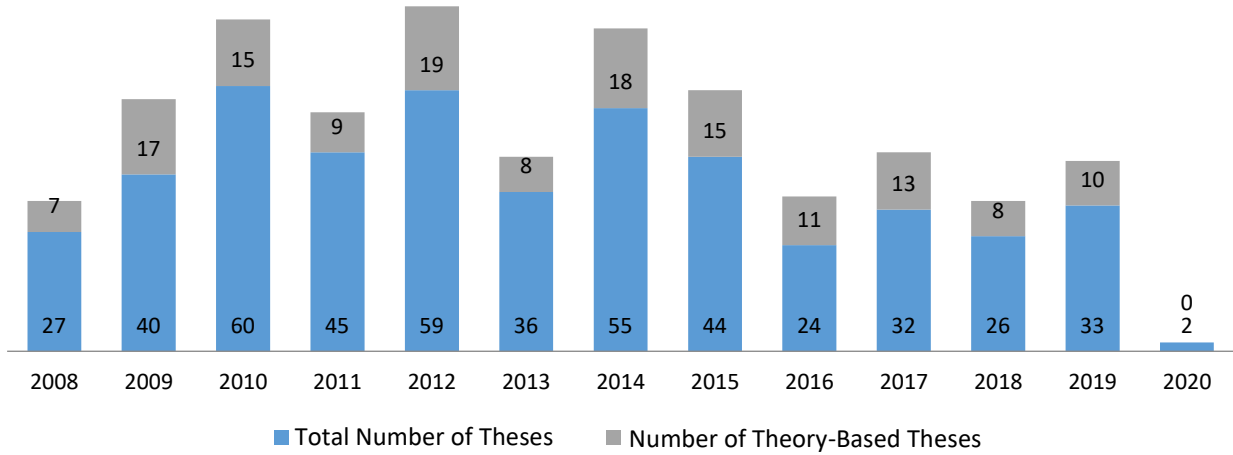


Figure 5. Distribution of theses and theory-based theses by years

Distribution of Theses by Universities

The distribution of the graduate theory-based theses in the field of distance education in Turkey by universities is presented in Table 2.

Table 2. Distribution of theses by universities

Name of University	f	%
Anadolu University	32	21,33
Gazi University	20	13,33
Hacettepe University	10	6,67
Fırat University	8	5,33
Marmara University	8	5,33
Karadeniz Teknik University	7	4,67
Atatürk University	7	4,67
Sakarya University	5	3,33
Ankara University	4	2,67
Middle East Technical University	4	2,67
Dokuz Eylül University	4	2,67
Çukurova University	3	2,00
Samsun On Dokuz Mayıs University	3	2,00
Yeditepe University	2	1,33
İstanbul University	2	1,33
İnönü University	2	1,33
Bahçeşehir University	2	1,33
Ege University	2	1,33
Balıkesir University	2	1,33
Mersin University	2	1,33
Adnan Menderes University	2	1,33
Trakya University	2	1,33
Dumlupınar University	2	1,33
Others	15	10,00
Total	150	100,0

When Table 2 is examined, it is seen that the most of the theory-based are in Anadolu (32) and Gazi (20) Universities. After these universities, it has been revealed that the least number of theses were done in Yeditepe, Istanbul, İnönü, Bahçeşehir, Ege, Balıkesir, Mersin, Adnan Menderes, Trakya and Dumlupınar Universities (2).

Distribution of Theory/Models Used in Theses

The distribution of theory/models used in theory-based graduate theses in the field of distance education in Turkey is presented in Figure 6.

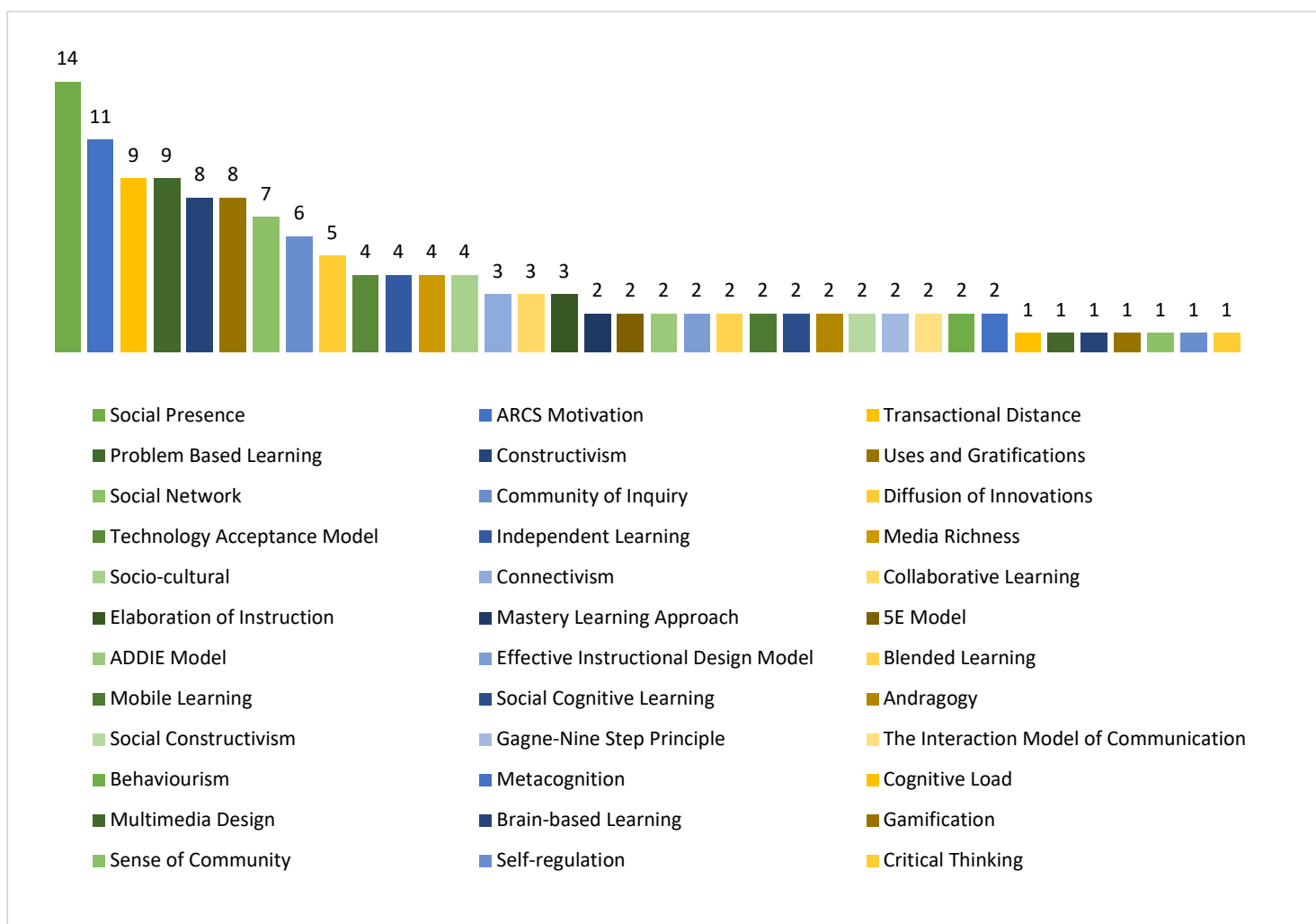


Figure 6. Distribution of theory/models in theses

When Figure 6 is examined, it is seen that the theoretical framework used in theory-based theses mostly consists of Social Presence (14), ARCS Motivation (11) Interactional Distance (9) and Problem-Based Learning (9) theories. Cognitive Load, Multimedia Design, Brain Based Learning, Gamification, Sense of Community, Self-regulation and Critical Thinking theories appear to be at least number(1) in the theses.

Distribution of Theses by Disciplines

The distribution of graduate theory-based theses in the field of distance education in Turkey by disciplines is presented in Figure 7.

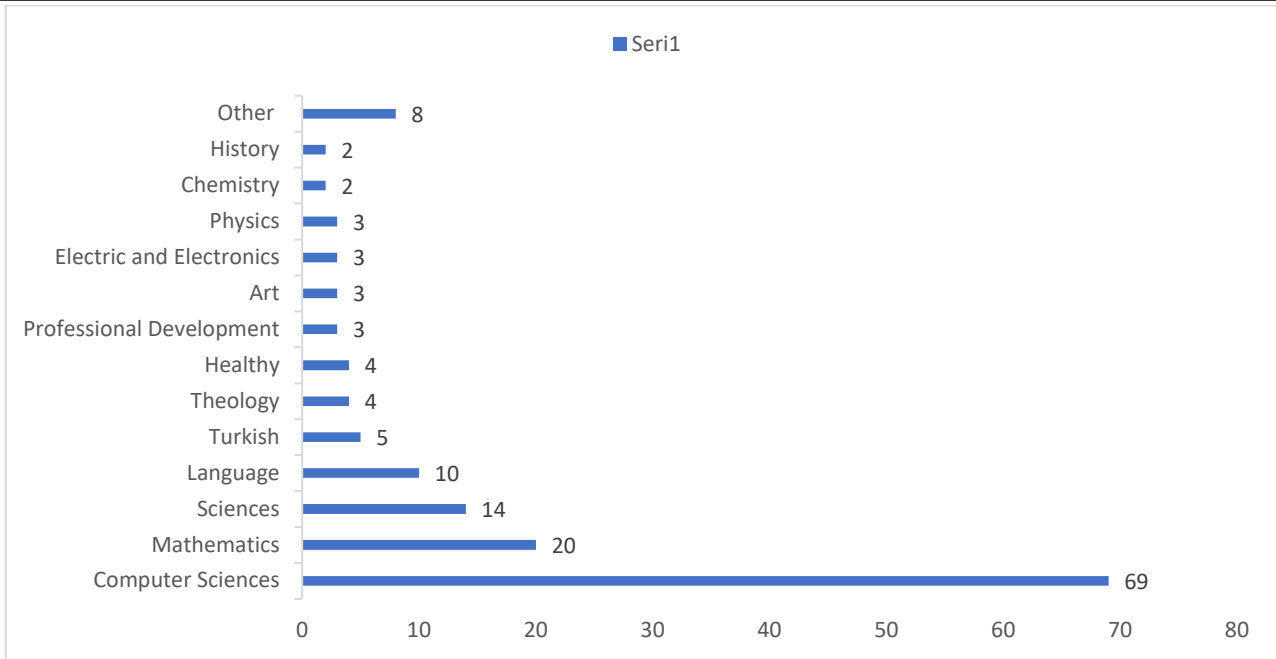


Figure 7. Distribution of theses by disciplines

According to Figure 7, when the disciplines of the graduate theory-based theses in the field of distance education are examined, the highest number of theses are in the field of Computer Science (Computer and Instructional Technology Education, Information Technologies and Software, Information and Communication Technologies, Computer Engineering, etc.) (69), and followed by Mathematics (20) and Science (14). On the other hand, it has been revealed that the number of theses done in the fields of Chemistry and History is 2.

Distribution of Variables Used in Theses

The distribution of variables used in the graduate theory-based theses in the field of distance education in Turkey is presented in Table 3.

Table 3. Distribution of variables used in theses

Name of Variables	f	%
Academic achievement	50	33.33
Attitude	23	15.33
Attendance to lesson	17	11.33
Motivation	16	10.67
Permanence	10	6.67
Perception	7	4.67
Metacognitive thinking/Awareness	6	4.00
Cognitive presence	6	4.00
Social Presence	5	3.33
Self-efficacy	3	2.67
Transactional distance perception	4	2,00
Incentive	3	2,00
Opinion	3	2,00
Self-regulation	3	2,00
Evaluation	3	2,00
Transferability	3	2,00
Problem solving	2	1,33
Cognitive load	2	1,33
Learner autonomy	2	1,33
Satisfaction	2	1,33
Trend	2	1,33
Professional development	2	1,33

When Table 3 is examined, it is seen that academic achievement (50) and attitude (23) variables are mostly examined in theory-based theses in the field of distance education. It has been determined that the variables of problem solving, cognitive load, learner autonomy, satisfaction, disposition and individual development are the least (2) examined variable types. More than one variable has been discussed together in almost all of the theses.

Distribution of Sample Sizes in the Theses

The findings obtained as a result of the content analysis for determining the sample levels studied in the graduate theory-based theses in the field of distance education in Turkey are presented in Table 4.

Table 4. Sample levels in the theses

Sample Level	f	%
Undergraduate education	72	48.0
Primary education	24	16.0
Associate education	15	10.0
Teacher	13	8.7
Instructor/lecturer	11	7.3
Secondary education	8	5.3
Graduate	4	2.7
Document	3	2.0
Total	150	100.0

When Table 4 is examined, it is seen that the majority of the theory-based theses in the field of distance education were conducted with students at the undergraduate level (72) and students studying at the primary level (24). It is seen that the number of theses done with students at secondary education level (8) and students studying at graduate education level (3) is limited. It is seen that the number of theses carried out as document analysis is 1.

Distribution of Sample Sizes in Theses

The findings obtained as a result of the content analysis for the determination of the sample sizes in the graduate theory-based theses in the field of distance education in Turkey are presented in Table 5.

Table 4. Sample sizes in the theses

Sample Size	f	%
1-10	8	5.6
11-30	18	12.5
31-100	66	45.8
101-300	45	31.3
1000+	7	4.9
Total	144	100.0

According to Table 5, when the sample sizes of the theory-based theses in the field of distance education are examined, it is seen that 31-100 participants were studied in most of the theses (66), followed by a maximum of 101-300 participants in 45 theses. It has also been revealed that 8 theses were conducted with 1-10 participants while 7 theses were conducted with 1000+ participants.

DISCUSSION

In this study, in which the types, numbers, university distributions, used theories, subject areas, variables and sample groups and sizes of theory-based graduate theses published between 2008-2020 in the field of distance education in Turkey were examined, 150 theses were reached and analyzed in accordance with the research criteria in the YOK thesis center. The theoretical tendencies and research topics of the examined theses were evaluated in detail.

According to the results of the research, when the theory-based graduate theses in the field of distance education are examined, it is seen that there are more master theses than doctoral theses. It can be said that this finding is related to the fact that the number of master's programs and students is higher than doctoral programs, the duration of master's education is shorter, and the conditions required for entry and graduation are easier (Gökmen et al., 2017, Aydın et al., 2019).

When we look at the number of theses related to distance education, it is seen that there has been an increase from 2008 to 2012 and a decrease since 2012. In these years, the new widespread and low number of distance education institutions/programs in universities may have led to the low number of distance education researches. The decrease in the number of studies over time

may have been caused by the closure of distance education programs, the tendency to new subjects and the decrease in interest in distance education programs (Martin et al., 2011).

When the universities with the most distance education studies are examined, it is seen that Anadolu University ranks first, and after Anadolu University, theory-based graduate theses are done at Gazi University and Hacettepe University, respectively. The reason for this can be shown as the high number of distance education programs in these universities (Ateş, 2014). In addition, the fact that Anadolu University has a long-established open and distance learning faculty can be seen as one of the reasons why it is prominent in this regard. The fact that Gazi University has more than one education faculties, and the number of doctorate and master's programs is high, has enabled these two universities to do more studies. In addition, the fact that there are universities with distance education centers and actively using distance education technologies may have increased the number of theory-based theses.

Within the scope of the study, it is seen that the rate of theory-based theses in the total theses is low. Approximately one of every three theses examined is theory-based. According to these results, considering that the use of theory/theories in distance education graduate theses has increased since 2008 and has a long history in Turkey, it can be concluded that the low number of theory-based theses is generally due to the recent maturation of the theoretical/conceptual frameworks, the theses done at the descriptive level of distance education (Bozkurt et al., 2015b). It can be thought that the theses that are not theory-based are either a technology development focused or a literature study, and the findings in the theses other than these are not discussed within any theoretical framework.

It is seen that the theories such as “**Social Presence**”, “**ARCS Motivation**”, “**Interactive Distance**” and “**Problem-Based Learning**” take place the most in graduate theory-based theses. It is seen that these theories are mostly approaches that put the student in the center with today's teaching and learning approaches. Developing theories for different fields and contributing to the field of distance education can contribute to distance education studies being a scientific field of study. Scientific studies constructed in a theoretical framework affect both practice and research dimensions and provide strong support for researchers to explain and understand the relationships of a phenomenon in a broader perspective (Bozkurt et al., 2015a). Theories enable researchers to see the big picture and see their practice and research from a broader perspective. This broad perspective helps researchers connect with the study of others, facilitate coherent frameworks and understand their actions more deeply, and perhaps most importantly, transfer experience gained in one context to new experiences and contexts (Anderson, 2008).

When the research subject areas of theory-based graduate theses published between 2008-2020 in the field of distance education in Turkey are examined, it is seen that computer science is the most frequently used subject area. Disciplines such as Mathematics, Science and Foreign Language also stand out as the most used subject areas. When the subject areas/disciplines included in the distance education studies in the literature are examined, it is seen that generally similar areas are used in the studies, although there are small differences (Tuncay & Uzunboylu, 2010; Gökmen et al., 2017; Bozkurt et al. 2015). It can be thought that distance education programs are mostly opened in computer departments and include computer science courses, which leads to more studies in this field.

When we examine at the variables in the theses examined within the scope of the study, it is seen that academic success is the most examined variable type, and variables such as attitude, class participation and motivation are the variables that take place most in the studies. It has been revealed that concepts such as academic achievement, attitude, perception and satisfaction are commonly used in distance education studies. The frequent use of these variables in theses can be seen as a comparison of the effectiveness of face-to-face education and distance education in terms of these variables (Saba, 2000; Horzum et al., 2017).

It is seen that the sample group in the theses is mostly undergraduate students, and document/document analysis is the least used sample group. The fact that distance education centers and programs are mostly in universities may have led researchers to study more with university students (associate, undergraduate and graduate) (Varışoğlu et al., 2013). In addition, the fact that researchers prefer sample groups with easier access when choosing a study group may be a reason for this situation. At the same time, the group studying with distance education is generally expected to have high technology literacy, readiness for independent learning and self-control. For this reason, the fact that the sample group studied in distance education generally consists of adults supports this result (Bozkurt et al., 2015a; Demir-Kaymak & Horzum, 2013; Gökmen et al., 2017). In addition, it is predicted that distance education will enter the field of distance education in sample groups at primary and high school levels, as it offers lifelong learning opportunities and enters all levels of education due to the current pandemic conditions. It is seen that sample size is generally in the range of 31-100 participants. As Erdoğan (2009) stated, this may also be due to the limited time of researchers, official and ethical process procedures, and their aim to reach data in a shorter time and more easily.

CONCLUSION AND RECOMMENDATIONS

As a result, this study is important in terms of guiding future researchers by examining theory-based graduate theses in the field of distance education in Turkey. In the study, 150 graduate theses published on this subject and meeting the research criteria were examined and it was determined that one of each of these three theses was theory-based. It can be said that this number is quite small and studies on this subject should be increased. As a result of this study, it was determined that most of the theory-based graduate theses published between 2008-2020 in the field of distance education consisted of master's theses, there was a serious decrease in the number of theses since 2014, the most common field of theses was computer science, academic

achievement and attitude were the most frequently used variables in theses. On the other hand, it was concluded that theories such as Social Presence, ARCS Motivation, Interactive Distance and Problem-Based Learning were included, undergraduate students were preferred as the sample group in the theses, and groups of 31-100 participants were more preferred as the sample size.

It is thought that the findings obtained from this study will be useful for a deeper understanding of the theory-based theses in distance education, by offering suggestions for future research, and contributing to the thesis or research that is planned to be done in the future on this subject. Based on the findings obtained from the study, some suggestions are offered to the researchers:

- Considering that the theory-based distance education graduate theses mostly consist of master's theses, incentives can be made for the establishment of distance education departments in universities and the employment of instructors who will carry out educational activities in order to do doctoral theses with higher quality and scientific value.
- Considering that the theory-based distance education graduate theses are generally insufficient, the fact that the academicians encourage their students to make theory-based theses can strengthen the thesis to be prepared on this subject and increase its contribution to the field.
- It is seen that the theories such as Social Presence, ARCS Motivation, Interactional Distance and Problem-Based Learning are mostly included theories in the graduate theory-based theses. In general, in addition to these theories, future studies should focus on the use of theories that directly guide distance education and ensure the effectiveness and functionality of distance education applications.
- It is seen that nearly half of the theses published in the field of distance education were conducted in two or three universities. In this respect, it can be ensured that different universities encourage graduate theses covering both the practice and theory of distance education, and experienced instructors can take part as guides in universities.
- In the theses examined, it is seen that the undergraduate students are mostly studied as the sample group. Considering the increasing importance of distance education at every education level, the use of random sampling methods will enable the selection of sample groups at primary and high school levels and to obtain more generalizable results. For this reason, conducting theory-based theses in different education levels can be a source for producing different solutions for the problems in this field.

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Statements of publication ethics

We declare that the study has not unethical issues and that research and publication ethics have been observed.

Researchers' contribution rate

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Ethics Committee Approval Information

Since the document review was carried out, no permission was needed.

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