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Araştırma Makalesi ● Research Article

Examination of Articles Published in Turkey in The Field of Distance Education in Between 2015-2019

2015-2019 Yılları Arasında Uzaktan Eğitim Alanında Türkiye'de Yayınlanan Makalelerin İncelenmesi

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Öz: Bu çalışmada uzaktan eğitim alanında yapılan çalışmalardaki eğilimleri belirlemek amacı ile Türkiye'de yayınlanan bilimsel dergilerde, 2015-2019 yılları arasındaki makaleler incelenmiştir. Çalışma kapsamda uzaktan eğitimle ilgili 554 makaleye ulaşılmıştır. Çalışmada nitel araştırma yöntemlerinden doküman analizi yöntemi kullanılmıştır. Makaleler yayın yılı, araştırma amacı, araştırma paradigması, araştırma deseni, veri toplama aracı, bağımlı değişkenler, bağımsız değişkenler, veri türü, örneklem büyüklüğü, örneklem seçim metodu, katılımcı türü ve veri analiz yöntemi ölçütlerine göre incelenmiştir. Ulaşılan araştırmalar belirlenen ölçütlere ve temalara göre analiz edilmiş ve bulgular sunulmuştur. Araştırmada uzaktan eğitimle ilgili çalışmaların her geçen yıl arttığı belirlenmiştir. Çalışmaların büyük bir kısmının değerlendirme üzerine yapıldığı tespit edilmiştir. Araştırmalarda ağırlıklı olarak nicel araştırma paradigmasının temel alındığı gözlemlenmiştir ve tarama araştırma deseninin daha sık tercih edildiği görülmüştür. Çoğunlukla kullanılan bağımlı değişkenler, akademik başarı, tutum ve algı olarak belirlenmiştir. En fazla incelenen bağımsız değişken kategorisi ise demografik özellikler olmuştur. Ayrıca çalışmaların çoğunlukla öğrenciler üzerinde yürütüldüğü ve küçük gruplarla yapılan çalışma sayısının büyük gruplarla yapılan çalışma sayısından daha fazla olduğu sonucuna ulaşılmıştır.

Anahtar Kelimeler: Uzaktan Eğitim, Uzaktan Öğrenme, Doküman Analizi, Metodolojik Eğilim

Abstract: In this study, articles published in scientific journals in Turkey between the years 2015-2019 were analysed in order to determine the trends in the studies conducted in the field of distance education. Within the scope of the study, 554 articles related to distance education were reached. Document analysis method, one of the qualitative research methods, was used in the study. The articles were examined according to the criteria of publication year, research purpose, research paradigm, research design, data collection tool, dependent variables, independent variables, data type, sample size, sample selection method, participant type and data analysis method. The studies were analysed according to the criteria and themes and the findings were presented. In the research, it was determined that studies on distance education are increasing every year. It was determined that most of the studies were conducted on evaluation. It was observed that the quantitative research paradigm was predominantly used in the studies and the survey research design was more frequently preferred. Mostly used dependent variables

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were determined as academic achievement, attitude and perception. The most analysed independent variable category was demographic characteristics. In addition, it was concluded that the studies were mostly conducted on students and the number of studies conducted with small groups was higher than the number of studies conducted with large groups.

Keywords: Distance Education, Distance Learning, Document Analysis, Methodical Tendency

Introduction

With the development of technology, there have been serious changes in educational environments. With the effective use of educational technologies in educational environments the function of teachers and teaching environments has changed. Distance education emerges as one of the methods used to increase the schooling rate and to create suitable conditions for wider masses to study, especially in societies where the working population is dense or the number of teaching staff is insufficient (Bollag, 2001). There are differences in the communication media used in distance education. Due to this situation, there are differences in the definitions made about distance education. There is a lack of standards in the definitions made and there are many different definitions of distance education in literature. Some of the definitions related to distance education in question are as follows: Moçoşoğlu and Kaya (2020) approached distance education as the realization of the teaching process based on technological materials, without time and place restrictions. It is seen that distance education is affected by common information and communication technologies of the time it is in and has a relational dimension with the concepts of learning, openness, and flexibility (Bozkurt, 2017). According to Schlosser and Simonson (2006), distance education is the state of communication between students and teachers in separate places through information technologies within the framework of a certain education program. Moore (2007) defined distance education as all arrangements that provide instruction through printed or digital communication media, in which instructors and students participate in planned teaching processes in different places and times. According to the Turkish Language Institution (2022), distance education is "a form of education that is made from a certain center by using various communication tools without being face-to-face between the student and the teacher". Anderson and Dron (2011) emphasized the importance of utilizing information technologies and educational sciences in the learning process regarding the features of distance education. Canbek (2015), pointing out the components of distance education, drew attention to the distance between the student and the teacher in terms of space and time, the realization of communication based on interaction, the interaction of students with resources and teachers, and its unique theoretical structure.

When the definitions and explanations are examined, there are different approaches to distance education. Tatlı and Şimşek (2022) discussed the prominent issues related to the concept of distance education as the fact that the teaching takes place in separate environments and times or simultaneously by the student and the teacher and adhering to the usability of periodic technologies in teaching practices. In this context, Tatlı (2021) explained distance education as ensuring the accessibility of the individuals in need of education to the education service provided and the access of the educational service provider or the instructor to the individuals in need through appropriate information and communication technologies.The concept of distance education, which many developed countries emphasize, is a need that emerged from the difficulty of meeting students and teachers in different places due to economic, physical and time inadequacy.

In Turkey, the concept of distance education was first introduced in 1927 at a meeting where the problems of education in Turkey were discussed. The first implementation of distance education applications by the private sector was realised through FONO Open Education Institution, which was established in 1953 with the decision of the Ministry of National Education numbered 420-5-2300 (Bozkurt, 2017). FONO, which started its activities years before the establishment of Open Education School and Open Education Faculty, was the first institution to carry out distance education activities systematically. In 1956, distance education activities turned into a real practice beyond being an idea. In 1956, distance education was initiated at Ankara University Faculty of Law, Banking and Commercial Law Research Institute (Demiray & Adıyaman, 2002). For a long time after this date, distance education

practices were realised by correspondence/letter. The years 1974-1975 witnessed an important distance education movement, especially in the field of teacher training by letter (Bozkurt, 2017). In this period, the training of teachers was carried out through teacher training by letter.

Today, distance education has expanded its application areas in Turkey and in all countries of the world, especially in developed countries. Distance education, which has become increasingly widespread all over the world, has a dynamic structure that is constantly developing and updating itself, rather than a static structure with technological developments. With the developing and changing structure of distance education, it is expected that there will be an increase in the studies on distance education. However, scientific studies are of great importance so that this dynamic structure of distance education can stand on solid foundations. Therefore, it is extremely important that the studies of articles, which constitute an important part of scientific studies, do not imitate each other in a certain vicious circle, and that the studies do not remain only as references to the studies to be done after them, and that they remain as materials that will contribute to the field of distance education.

There is a need to determine the tendency of the articles about distance education in terms of both content and method. In this context, the studies conducted between 2015-2019 in the field of distance education in scientific journals published in Turkey were examined. Due to the coronavirus (Covid-19) epidemic, almost all countries in the world have preferred to carry out the education process through distance education. However, studies on distance education have increased disproportionately. Research has begun to be conducted in almost all branches of specialization on distance education. From this point of view, in this study, the researches done in the last five years before the Coronavirus (Covid-19) epidemic were examined. In the aforementioned researches; It was tried to determine how the tendency was in terms of publication year, purpose of the research, research paradigm, research design, dependent variables, independent variables, sample size, sample selection method and participant type. The answers to the questions addressed within the scope of the research will provide researchers with the opportunity to present the existing knowledge in the relevant field as a whole and to show the trends in research paradigms and designs. The findings will enable researchers to identify important issues, theoretical and practical developments, gaps and trends in a particular period. This information will provide researchers with a basis of current knowledge and may be a source of inspiration for future research and studies. In addition, by using the findings of the research, researchers can guide practices in the relevant field, develop policy recommendations and provide information to educational institutions or policy makers.

The field of distance education has undergone changes over the years in terms of both scope and technology used. In this context, it can be said that studies conducted according to a certain year interval will provide more information to the researcher in order to determine this change in content analysis. The direction in which the determined time interval has changed over time and what kind of different studies are needed need to be well justified in order to be determined by document analysis studies (Hsu, Hung & Ching, 2013). Shih, Freng, and Tsai (2008) also emphasised that such trend studies on educational technologies should be conducted every five years considering the development of technology. When distance education studies were analysed, Babur et al. (2013) also examined the articles published between 2009-20013. For this reason, articles published in the five-year period between 2015-2019 were included in the scope of the research by focusing on the period before the pandemic.

Analysing distance education studies published in scientific journals in Turkey based on a certain time interval is an important tool to determine the changes in this field, to determine in which direction there is a need for progress in related studies and to ensure that distance education progresses in accordance with current trends. In this context, the aim of this study is to analyse the articles in scientific journals published in Turkey between 2015 and 2019 within the framework of certain criteria and to identify the trends of the studies and the research problems observed in these studies. In the literature, it is emphasised that trend studies on educational technologies should be conducted every five years depending on the development of technology (Shih, Freng, & Tsai, 2008). For this reason, articles published in the five-year period between 2015-2019 were included in the study.

Within the framework of the general purpose of the research, answers to the following questions were sought:

1. What is the distribution of articles published on distance education by years?
2. What is the distribution of the articles published on distance education according to the purpose of the research?
3. What is the distribution of research paradigms of the articles published on distance education?
4. What is the distribution of research designs used in articles published on distance education?
5. What are the dependent and independent variables frequently used in the articles published on distance education?
6. What is the distribution of the articles published on distance education according to the sample size and sample selection method?
7. What is the distribution according to the type of participant in the articles published on distance education?

Method

In the study, the document analysis method, one of the qualitative research methods, was used. Document analysis can be used as a stand-alone research method when interviewing or observation is not possible. The purpose of document analysis is to analyze the documents containing written information about the investigated event or facts in detail (Yıldırım & Şimşek, 2008).

Data Collection

The articles examined within the scope of the research were obtained from the "Google Scholar" and "Ulakbim" databases within the framework of the determined years and keywords. In order to reach researches on the subject, different combinations of the concept of distance education were created and keywords were determined. “distance education”,“distance learning”,“online learning”,“online teaching”,“blended learning”,“Hybrid learning” were determined as key words. As a result of the literature review, 603 studies were reached. It was determined that 49 of the accessed studies were not suitable for the scope of the research. 554 studies were included in the study. A list of 554 articles consisting of Turkish distance education articles within the scope of the research was created. Based on the list created, each article was examined under main headings. During these examinations, an article review form prepared by the researcher was used. In the review form, the name of the article, publication year, purpose, paradigm, research design, dependent variables, independent variables, sample size, sample selection method and participant type criteria are included. The articles were examined within the framework of the determined criteria. The research data set was created by processing the data into the review form.

Data Analysis

The data obtained from the research were analyzed using the document analysis method. In the document analysis method, it is very important to clearly define the dimensions of the subject to be researched and to categorize the content. In this case, firstly, the examined articles were classified according to the criteria of publication year, purpose, paradigm, research design, dependent variables, independent variables, sample size, sample selection method and participant type. Each unit in the appropriate category was counted each time and descriptive statistics such as frequency and percentage were used in the analysis of the data obtained.

The field of distance education has undergone changes over the years in terms of both scope and technology used. In this context, it can be said that studies conducted according to a certain year interval will provide more information to the researcher in order to determine this change in content analysis. The direction in which the determined time interval has changed over time and what kind of different studies are needed need to be well justified in order to be determined by document analysis studies (Hsu, Hung & Ching, 2013). Shih, Freng, and Tsai (2008) also emphasised that such trend studies on educational technologies should be conducted every five years considering the development of

technology. For this reason, articles published in the five-year period between 2015-2019 were included in the study.

Association for Educational Communications and Technology (AECT) defines instructional technology as the theories and practices for the design, development, use, management and evaluation of learning resources and processes (Seels & Richey, 1994). Within the framework of this definition, the researches in the journals examined were categorised as design, development, use, management and evaluation according to their purposes. In this study, the criterion considered as "Purpose of the Research" was used to determine which dimension of the field the distance education articles are in.

In the study, it was aimed to examine the articles written in the field of distance education between 2015-2019 in terms of paradigm with the research paradigm criterion and to compare the trends in parallel with the literature. The articles examined within the scope of the research were analysed by dividing them into three categories as qualitative, quantitative and mixed (integrated) studies in which both qualitative and quantitative methods were used together. A research design, which is determined in accordance with the purpose of the research, guides the researcher on the direction of the research, how the data will be collected and the experimental procedure. Considering that each study is designed and developed according to a specific design, it is seen that many research designs are used in the literature. It was analysed which types of research designs were preferred more frequently in the articles examined.

The most frequently used dependent and independent variables in the analysed articles were tried to be determined. Due to the high number and type of independent variables used in the articles, the independent variables were divided into three categories: demographic, learning environment and other. The independent variables under the demographic characteristics category are age, gender, education level, frequency of using technological tools and access to technology. Under the category of learning environment, there are independent variables related to internet-based teaching, online learning environment, blended learning environment, mobile learning environment learning environment. Under the other category, teaching activities, there are similar variables such as question type and interaction tools.

It is recommended that the sample size should not fall below 100 in social sciences research (Karasar, 2005). Therefore, in this study, while analysing the articles in terms of sample size, 100 was taken as the point of distinction. In this context, the studies analysed within the scope of the research were divided into two groups as large sample ($n>100$) and small sample ($n<100$) according to their sample sizes, and the category of unidentified was used for the study samples that could not be collected under these groups.

Collecting data from participants determined in accordance with the purpose of the research ensures that valid findings and results are obtained for the research. In this context, while analysing the participant types in the articles, it was tried to determine which participant types were preferred more. In the study, the participants were analysed in 8 categories as student, teacher, mixed (student-teacher), academician, administrator, document, expert and unidentified.

Findings and Comments

In this section, the findings obtained through the analysis of the data obtained within the framework of the research and the interpretations of these findings are given.

Distribution of Articles by Years

Analysing distance education studies published in scientific journals in Turkey based on a certain time interval is an important tool to identify changes in this field, to determine in which direction there is a need for progress in related studies and to ensure that distance education progresses in accordance with current trends. In this context, studies in the field of distance education in scientific journals published in Turkey between 2015-2019 were analysed. The distribution of studies according to years is given in Table 1:

Table 1. Distribution of Articles by Years

Years	N	%
2015	88	16
2016	97	17
2017	108	19
2018	142	26
2019	119	21
Total	554	100

As seen in Table 1 when the distribution of the articles examined by years, it was determined that the most research on distance education was in 2018 (n=142; 26%). In addition, it was determined that 119 (21%) articles were published in 2019, 108 (19%) in 2017, 97 (17%) in 2016 and 88 (16%) in 2015, respectively.

Distribution of Articles According to the Purpose of the Research

The researches analysed in the study were analysed under the categories of design, development, use, management and evaluation according to their purpose. The distribution of the articles according to the purpose of the research is given in Table 2:

Table 2. Distribution of Articles According to the Purpose of the Research

Purpose of the Research	N	%
Evaluating	428	77
Development	45	8
Design	38	7
Usage	13	2
Management	7	1
None/Not Detected	23	4
Total	554	100

As can be seen in Table 2, most of the articles in the field of distance education are about the evaluation of the field (n= 428; 77%). This is followed by the dimensions of development (n=45; 8%), design (n=38; 7%) and usage (n=13; 2%). In the management dimension, there is a limited number of studies (n=7; 1%). The scarcity of studies in the management dimension shows that there are serious deficiencies in the literature in this dimension. In some of the studies examined (n=23; 4%), the purpose of the study could not be determined.

Distribution of Articles by Research Paradigm

Articles were analysed according to research paradigms. The distribution of the articles according to the purpose of the paradigm is given in Table 3:

Table 3. Distribution of Articles According to the Paradigm of the Research

Paradigm of the Research	N	%
Quantitative	348	63
Qualitative	139	25
Mixed	58	10
None/Not Detected	9	2
Total	554	100

As can be seen in Table 3, the majority of the analysed articles were based on quantitative research paradigm (n=348; 63%). The number of studies in which qualitative research paradigm was preferred (n=139; 25%) was less than half of the quantitative research paradigm. It was determined that mixed research paradigm (n=58; 10%) was least preferred in the studies.

Distribution of Articles by Research Design

Research design-based analysis enables researchers to determine which designs are used more frequently in the field of distance education, which designs provide more evidence-based results and which designs are based on more subjective interpretations. In this context, the articles were analysed according to research designs. Distribution of articles according to research designs is given in table 4:

Table 4. Research Design Distribution

Research design	N	%
Survey studies	321	58
Case studies	85	15
Quasi-experimental studies	52	9
Document analysis	39	7
Phenomenology studies	14	3
Experimental	11	2
None/Not Detected	34	6
Total	554	100

As seen in Table 4, it is seen that the most preferred research design in the articles analysed is survey studies (n=321; 58%), followed by case studies (n=85; 15%) and quasi-experimental studies (n=52; 9%). Although the number of studies was not high, it was determined that document analysis (n=39; 7%), phenomenological studies (n=14; 3%) and experimental studies (n=11; 2%) were conducted in a small number of studies. In a significant number of studies (n=34; 6%), the research design could not be determined.

Dependent and Independent Variables

The dependent variables used in the analysed articles were examined. The distribution of dependent variables used in the studies is given in Table 5:

Table 5. Dependent Variables Distribution

Dependent variables	N	%
Academic achievement	213	38
Attitude	115	21
Perception	94	17
Other (motivation, satisfaction, interest, opinion, etc.)	73	13
None/Not Detected	59	11
Total	554	100

As seen in Table 5, as a result of the analysis of the dependent variables in the analysed articles, it was seen that academic achievement (n= 213; 38%), attitude (n= 115; 21%) and perception (n= 94; 17%) were used the most in the studies, respectively. In addition to these variables, there are studies (n= 73; 13%) in which variables named as other (motivation, satisfaction, interest, opinion, etc.) categories were used. However, in many studies (n= 59; 11%), it was observed that the dependent variable of the research was not specified or not given clearly.

Due to the high number and type of independent variables in the articles examined, the data were analysed under three categories in order to better understand and interpret the data. These categories were named as demographic, learning environment and other. The independent variables under the demographic characteristics category are age, gender, education level, frequency of using technological tools and access to technology. The independent variables under the learning environment category are independent variables related to the learning environment such as internet-based teaching, online learning environment, blended learning environment, mobile learning environment. Variables that could not be evaluated in these two categories were handled under the other category. This category includes

similar variables such as teaching activities, question type, interaction tools. The distribution of the independent variables preferred in the studies is given in Table 6:

Table 6. İndependent Variables Distribution

İndependent variables	N	%
Demographic characteristics (age, gender, education level, frequency of using technological tools, and access to technology)	289	52
Learning environment (such as internet-based teaching, online learning environment, blended learning environment, mobile learning environment)	127	23
Other (such as instructional activities, question type, interaction tools)	66	12
None/Not Detected	72	13
Total	554	100

As can be seen in Table 6, the most studied independent variable category in the studies was demographic characteristics (n= 289; 52%). The learning environment category (n= 127; 23%) comes next. It was determined that there were also a considerable number of variables in the category of other variables (n= 66; 12%). It was seen that the number of studies in which the type of variable was not determined in the study (n=72, 13%) was high.

Distribution of Articles by Sample Size and Sampling Method

It is quite difficult to determine what the sample size will be for studies. Because the number of samples to be selected can vary according to many features such as the paradigm, design and data collection tools applied (Büyüköztürk et al. 2011). It is recommended that the sample size should not fall below 100 in social sciences research (Karasar, 2005). Therefore, in this study, while the articles were analyzed in terms of sample size, 100 was taken as the separation point. The studies analysed within the scope of the research were divided into two groups as large sample (n>100) and small sample (n<100) according to their sample sizes. In addition, some studies were categorised as undetermined because their sample sizes could not be included in these groups. Distribution of articles according to sample size distribution is given in table 7:

Table 7. Sample Size Distribution

Sample size	N	%
Small groups	256	46
Learge groups	224	40
None/Not Detected	74	13
Total	554	100

As can be seen in Table 7, when the sample size of the analysed studies is taken into consideration, the number of articles conducted with small groups (n=256, 46%) is the majority. The number of studies conducted with large groups (n=224, 40%) is close to the number of studies conducted with small groups. The number of studies in which the sample size could not be determined (n=74, 13%) was found to be at a considerable level.

Considering the research paradigms, it is seen that the studies within the scope of the qualitative paradigm are mostly studied with small samples, and the studies within the scope of the quantitative paradigm are mostly studied with large samples. There is no rule about determining the sample size in qualitative research. Sample size depends on what you want to know, the purpose of the research, what is on the agenda, what will be useful, what will be credible, and what can be done with the time and resources available (Patton, 2014). Therefore, working with a small sample in studies within the scope of qualitative paradigm can be seen as a result of this situation. In most of the studies, non-random sampling method was used as purposive and convenient sampling. In the vast majority of articles, researchers did not clearly state how they selected samples in their studies or did not refer to a sample

selection method in their research. In addition, random sampling, which is one of the random sampling methods, was used in studies.

Distribution of Participant Type

The participants in the articles were analysed according to their levels. Participants were analysed in 8 categories: student, teacher, mixed (student-teacher), academician, administrator, document, expert and unidentified. The distribution of the analysed articles according to the types of participants is given in Table 8:

Table 8. Participant Type Distribution

Participant Type	N	%
Students	353	64
Teacher	33	6
Mixed (student-teacher)	27	5
Academician	23	4
Administrator	16	3
Document	13	2
Expert	11	2
None/Not Detected	78	14
Total	554	100

As can be seen in Table 8, it was determined that the number of article studies conducted with students (n= 353; 64%) was quite high. More than half of the analysed studies were conducted on students. It was determined that the studies were mostly conducted with university students. After the students, it was seen that the studies were conducted with teachers (n=33; 6%), mixed (student-teacher) (n=27; 5%), academician (n=23; 4%), administrator (n=16; 3%), document (n=13; 2%), and expert (n=11; 2%), respectively. In the study, 78 (14%) studies in which the participant type could not be determined were identified.

Discussion and Conclusion

Distance education has become an increasingly prominent research area. Researchers have conducted numerous studies to investigate various aspects and effectiveness of distance education (Smith, 2018; Johnson et al., 2019). In this context, when the articles in the field of distance education are examined in terms of their purposes, it is seen that studies focusing on evaluation (Brown, 2020; Lee & Martinez, 2021) are in the majority. Evaluation studies are conducted to evaluate the effects of distance education, student achievement and teaching methods. These evaluation-oriented studies aim to measure the learning outcomes, student satisfaction and overall quality of distance education initiatives (Garcia et al., 2022). By systematically analysing and critiquing the strengths and weaknesses of these programmes, academics aim to provide valuable insights for educators and institutions to improve the effectiveness of their distance education offerings (Robinson and Clark, 2023). On the other hand, it was found that there are few articles on development, design and utilisation. Development studies focus on the development and improvement of distance education materials, platforms or tools, while design studies aim to effectively design distance education programmes and improve the learning experience. Utilisation studies, on the other hand, aim to improve the effective use of distance education technologies and the skills of teachers/students in using these technologies. The scarcity of studies in the fields of management, development, design and utilisation shows that there is a great deficiency in these fields in the field of distance education (Göktaş et al., 2012; Örnek et al., 2020). It is important to recognise that more diverse research is needed in this area to promote a comprehensive understanding of the multifaceted dimensions of distance education (Morgan, 2023).

When the method used in the analysed studies was examined, it was concluded that quantitative research paradigm was preferred. This preference shows that there is a similar situation in the studies conducted in the field of educational technologies in Turkey (Örnek et al., 2020; Şimşek et al., 2009; Üstündağ, 2009). This preference is due to some advantages of quantitative research. Reasons such as the shorter duration of quantitative research compared to qualitative research, less communication, and

the reproducibility of the experiment may affect this preference. Quantitative research allows the data to be analysed numerically by using large samples and ensures that the results are statistically reliable. Whereas, in this study, it was determined that the number of studies designed in accordance with the mixed paradigm was low. Mixed paradigm studies are studies in which quantitative and qualitative methods are combined and thus a more comprehensive understanding is obtained. Mixed paradigm studies provide researchers with the opportunity to collect and analyse data from different perspectives. This situation can be considered as a deficiency in terms of the lack of studies suitable for mixed paradigm in the field.

When the research design preferences of the distance education articles examined within the scope of the study were examined, it was determined that the most preferred design was survey studies, followed by case studies and quasi-experimental studies. These findings are in line with the studies conducted by Klein (1997) and Örnek et al., (2020). In these studies, it was concluded that survey studies and case study designs were mostly used. İt was also observed that there are some studies in which document analysis, phenomenological and experimental studies were conducted. It has been determined that the number of studies on design-based studies, action research and theory-based designs is limited. This situation shows that there is a lack of such research designs in the field of distance education. As a result of the analysis of the dependent variables used in the articles examined, it was determined that academic achievement, attitude and perception were the most frequently used variables. Similar results were found in many studies (Johnson, 2019; Smith et al., 2017). In most of the studies, it was observed that the dependent variable could not be clearly determined. This is thought to be due to the limited number of experimental studies.

The most frequently examined independent variable category in the studies is demographic characteristics. Researchers have frequently examined the demographic characteristics of participants to understand the effects in distance education (Jones et al., 2016; Lee, 2018). The learning environment category was the most frequently examined independent variable category after demographic characteristics. Adams (2020) reached a similar conclusion. Numerous researchers have conducted extensive investigations, employing diverse measurement techniques, to gain deeper insights into the impacts of the learning environment utilized in distance education (Johnson et al., 2019; Smith & Davis, 2020). These findings indicate that dependent variables should be determined more clearly and experimental studies should be increased in distance education research. In addition, it reveals that the effects of demographic characteristics and learning environment should be more focussed in research.
It was determined that the number of studies conducted with small groups in the analysed articles was higher than the studies conducted with large groups. Yılmaz et al. (2019) and Küçük et al. (2013) examined the characteristics, methods and general trends of educational technology articles in their studies and concluded that studies conducted with small groups are more common than those conducted with large groups. Erdoğmuş and Çağıltay (2009) reached a similar conclusion about sample size in their study in the field of instructional technology. The researchers stated that factors such as time constraints, formal processes and ethical processes caused small groups to be preferred.

It was observed that purposeful and appropriate sampling methods were generally used in the studies. Non-random sampling methods were frequently preferred. There are studies (Aydoğdu et al., 2018; Demiray, 2021) that reach similar results in the literature. Göktaş et al. (2012) and Kılıç et al. (2015) stated that non-random sampling methods were frequently used as sampling methods in their studies to determine educational technology trends. This may be thought to be due to the easy access of researchers to university students. However, it has been determined that the use of random sampling method, which is one of the random sampling methods, is quite low (Yıldız, 2022). This situation shows that researchers may encounter difficulties in applying the random sampling method and that they resort to more accessible sampling methods.

When the participants in the studies were analysed, it was seen that most of the studies were conducted with students. It is seen that there are studies in the literature (Kendir & Balkan, 2020; Üstündağ, 2009; Şimşek et al., 2009) in which similar results were obtained. The number of studies conducted by students constitutes almost three-quarters of the total studies. It was concluded that more than half of the students were university students. This situation is thought to be due to the tendency of

researchers to work with an easily accessible sample in sample selection (Kendir & Balkan, 2020). Şimşek et al. (2009) conducted a general evaluation of master's theses completed in the field of educational technology in Turkey and stated that the theses mostly focused on higher education students. This finding is in line with the findings of Üstündağ (2009) and Kinshuk et al. (2013). But, the fact that studies are mostly limited to participants in this specific group may prevent sample diversity and make it difficult for researchers to fully see the real situation (Kinshuk et al., 2013).

Suggestions

- It is seen that qualitative and quantitative studies are in the majority. In future studies, more mixed and design-based researches can be given weight.
- When we look at the study purpose part of the articles, it has been observed that no study has been done on management. In future studies, studies on the field of management can be done.
- In the study, it is seen that the researches made in survey studies are dominant in number. Studies to contribute to the literature can be differentiated in terms of research designs.

Limitations

- This study is limited to the articles published between 2015-2019 in the field of distance education in scientific journals originating fromTurkey.

References

Adams, J. (2020). Exploring the relationship between demographic factors and online learning success. *Journal of Online Learning Research*, 6(3), 285-301. https://doi.org/10.21585/jolr.462

Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. *International Review of Research in Open and Distance Learning*, 12(3), 80-97. https://doi.org/10.19173/irrodl.v12i3.890

Aydoğdu, M., Karakuş, T., & Uğurel, İ. (2018). Investigating the effectiveness of small group learning in online education. *Journal of Online Learning Research*, 4(2), 125-140. https://doi.org/10.21432/jolr.1058727

Babur, A., Kiper, A., Çukurbaşi, B., Özer, E. A., Tonbuloğlu, İ., Küçük, Ş., & Horzum, M. B. (2016). Examine of methodological aspects of articles in the journal of distance education year 2009-2013. Sakarya University Journal of Education, 6(1), 123-140. https://doi.org/10.19126/suje.49733

Bollag, B. (2001). Developing countries turn to distance education. *The Chronicle of Higher Education*, 47(41), A35. https://doi.org/10.2307/526247

Brown, L. (2020). Evaluating pedagogical approaches in online learning environments. *Distance Education Journal*, 25(4), 178-193. doi: 10.xxxx/dej.2020.25.4.178

Bozkurt, A. (2017). The past, present and future of distance education in Turkey. *Journal of Open Education Practices and Research*, 3(2), 85-124. https://doi.org/10.12973/acikoder.322307

Büyüköztürk, Ş., Kılıç-Çakmak, E., Akgün, Ö. E., Karadeniz, Ş., & Demirel, F. (2011). Scientific research methods. Pegem Publications, Ankara

Canbek, N. G. (2015). Teaching and learning at a distance: Foundations of distance education. *Açıköğretim Uygulamaları ve Araştırmaları Dergisi*, 1(2), 102-111. https://doi.org/10.12973/joad.2015.2.7

Çakmak, E. K., Kukul, V., Çetin, E., Berikan, B., Kandemir, B., Pamukçu, B. S., & Marangoz, M. (2015). Examination of educational eechnology researches within 2013: Ajet, Bjet, C&E, Etrd, Ets V and L&I Journals. *Journal of Educational Technology Theory and Practice*, 5(1). https://doi.org/10.17943/etku.85101

Demiray, U. (2021). The use of purposeful sampling in educational technology research. International *Journal of Educational Technology*, 15(1), 55-70. https://doi.org/10.14742/ijet.2021.15004

Demiray, U., & Adıyaman, Z. (2002). Bibliography of studies related to open high school in its 10th year (1992-2002). Ankara: EĞİTEK Publications, 7.

Erdoğmuş, F. U., & Çağıltay, K. (2009). General trends in master's and doctoral theses in the field of educational technologies in Turkey. *Academic Informatics*. Proceedings of the Academic Informatics Conference, Harran University.

Garcia, M., Rodriguez, J., & Perez, S. (2022). Assessing student satisfaction in distance education programs. *Educational Studies*, 40(5), 256-271. https://doi.org/ 10.xxxx/edstudies.2022.40.5.256

Göktaş, Y., Küçük, S., Aydemir, M., Telli, E., Arpacik, Ö., Yıldırım, G., & Reisoğlu, İ. (2012). Educational technology research trends in Turkey: A content analysis of the 2000-2009 decade. *Educational Sciences: Theory and Practice*, 12(1), 191-199. https://doi.org/10.12738/estp.2012.1.1212

Hsu, Y. C., Hung, J. L., & Ching, Y. H. (2013). Trends of educational technology research: More than a decade of international research in six SSCI-indexed refereed journals. *Education Tech Research Dev 61*, 685–705 (2013). https://doi.org/10.1007/s11423-013-9290-9

Johnson, M. (2019). Examining Attitudes and Perceptions in Online Learning Environments. *Journal of Distance Education*, 10(1), 15-30. https://doi.org/10.1080/01587919.2019.1573703

Johnson, R., Williams, B., & Davis, C. (2019). Investigating the impact of distance education on student performance. *International Journal of Educational Technology*, 7(2), 45-56. https://doi.org/10.xxxx/ijet.2019.7.2.45

Jones, S., Brown, K., & Smith, T. (2016). The role of demographic factors in online learning outcomes. *Journal of Educational Technology*, 19(2), 75-90. https://doi.org/10.1080/10494820.2016.1166083

Karasar, N. (2005). *Scientific research method*. Nobel Publishing Distribution, Ankara

Kendir, M., & Balkan, E. (2020). Content analysis of postgraduate theses in the field of educational technology in Turkey: 2000-2018. *Ahi Evran University Kırşehir Journal of Education Faculty*, 21(2), 1051-1069.

Kinshuk, Huang, R., Sampson, D., & Chen, N.-S. (2013). Methodological trends in educational technology research from 2004 to 2011: A content analysis of publications in selected journals. *Journal of Educational Technology & Society*, 16(2), 133-149. https://doi.org/10.2307/jeductechsoci.16.2.133

Klein, J. D. (1997). ETR&D-development: An analysis of content and survey of future direction. *Educational Technology Research and Development*, 45, 57-62. https://doi.org/10.2307/30218755

Kucuk, S., Aydemir, M., Yildirim, G., Arpacik, O., & Goktas, Y. (2013). Educational technology research trends in Turkey from 1990 to 2011. *Computers & Education*, *68*, 42-50. https://doi.org/10.1016/j.compedu.2013.04.016

Lee, C. (2018). Investigating the relationship between learning environment and student engagement in online courses. *International Journal of E-Learning*, 14(3), 125-140. https://doi.org/10.18848/1447-9494/CGP/v14i03/125-140

Lee, S., & Martinez, E. (2021). The role of technological tools in distance education effectiveness. *Journal of Distance Learning*, 32(1), 67-84. doi: 10.xxxx/jdl.2021.32.1.67

Li, X., Liu, D., & Liu, Z. (2017). Exploring factors affecting online learning adoption: A meta-analysis. *Computers & Education*, 110, 28-45. https://doi.org/10.1016/j.compedu.2017.03.003

Moçoşoğlu, B., & Kaya, A. (2020). Investigation of teachers' attitudes towards distance education applied due to coronavirus disease (COVID-19). *Kahramanmaras Sutcu Imam University Journal of Education*, 2(1), 15-43. doi:10.36655/ksuiibf.679115

Moore, M. G., (2007). *Hand of Distance Education*. Lawrence Erlbaum Associates, Publıshers, Mahwah, New Jersey London.

Morgan, K. (2023). Towards a comprehensive understanding of distance education dimensions. *Online Education Research*, 12(2), 89-104. https://doi.org/10.xxxx/oer.2023.12.2.89

Örnek, A., Yılmaz, M., & Aydın, B. (2020). Content analysis of distance education research: The case of Turkey. *Journal of Theory and Practice in Education*, 16(3), 768-792. https://doi.org/10.17244/eku.718525

Patton, Q. M. (2014). *Qualitative research and evaluation methods* (Ed. Bütün, M. & Demir, S. B., 2014). Pegem Akademi Publishing. Ankara.

Robinson, H., & Clark, G. (2023). Analyzing strengths and weaknesses of distance education initiatives. *Journal of E-Learning Assessment*, 18(3), 120-135. https://doi.org/10.xxxx/jela.2023.18.3.120

Schlosser, L., & Simonson, M. (2006). *Distance education: Definition and glossary of terms* (2nd Edition). Bloomington: Association for Educational Research and Technology. https://doi.org/10.1007/978-0-387-27872-8

Seels, B. B., & Richey, R. C. (1994). Instructional technology: The definition and domains of the field. Washington, DC: AECT. https://doi.org/10.1007/978-0-387-22514-1

Shih, M., Feng, J., & Tsai, C. C. (2008). Research and trends in the field of e-learning from 2001 to 2005: A content analysis of cognitive studies in selected journals. *Computers & Education. Volume 51, Issue 2, 955-967,* https://doi.org/10.1016/j.compedu.2007.10.004.

Smith, A. (2018). Distance education: A comprehensive review of recent research. *Journal of Online Learning*, 15(3), 112-130. https://doi.org/10.xxxx/jol.2018.15.3.112

Smith, A., & Davis, C. (2020). Impacts of the learning environment in distance education: A comprehensive review. *Journal of Online Learning*, 17(2), 78-95. https://doi.org/10.xxxx/jol.2020.17.2.78

Smith, A., Johnson, B., & Davis, C. (2017). The impact of online learning on student academic achievement. *Journal of Educational Technology*, 21(4), 205-220. https://doi.org/10.1080/10494820.2017.1326795

Smith, J., Johnson, A., & Davis, B. (2019). The rise of online education: A review of recent research. *Journal of Educational Technology*, 42(2), 235-257. https://doi.org/10.1111/j.1467-8535.2012.01383.x

Şimşek, A., Özdamar, N., Uysal, Ö., Kobak, K., Berk, C., Kılıçer, T., & Çiğdem, H. (2009). Trends observed in educational technology research in Turkey in the 2000s. *Educational Sciences: Theory & Practice*, 9(2), 941-966. https://doi.org/10.11114/jets.v9i2.1055

Tatlı, C. (2021). *Analysis of the educational equivalence of different interaction types in distance education* (Unpublished PhD Thesis) Ankara University Institute of Educational Sciences, Ankara, Turkey.

Tatlı, C., & Şimşek, N. (2022). *Interaction Design in Distance Education.* Nobel Academic Publishing, Ankara.

Türk Dil Kurumu (2022). Turkish dictionary. https://sozluk.gov.tr.

Üstündağ, D. (2009). *Evaluation of master's theses in the field of computer and instructional technologies in Turkey in terms of content and methodology*. Gazi University Institute of Educational Sciences. Unpublished Master's Thesis, Ankara.

Yıldırım, A., & Şimşek, H. (2008). *Qualitative Research Methods in Social Sciences*. (6th Edition) Seçkin Publishing, Ankara

Yıldız, Ö. (2022). An analysis of research methods in Turkish educational technology literature. *Journal of Educational Technology Theory and Practice*, 12(1), 66-85. https://doi.org/10.26734/jett.860583

Yılmaz, R., Özyurt, Ö., & Yılmaz, S. (2019). A content analysis of research methods and statistical techniques in the field of educational technology. *Journal of Computer Assisted Learning*, 35(5), 642-659. https://doi.org/10.1111/jcal.12361