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On Digital Citizenship Research in Journals in the TR Index Database: A Systematic Compilation Study*

TR Dizin Veri Tabanındaki Dergilerde Dijital Vatandaşlık ile İlgili Yapılan Araştırmalar Üzerine: Sistematik Derleme Çalışması

Hakan ÖNGÖREN**

Sistematik Derleme Systematic Article

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ABSTRACT

The concept of digital citizenship is met with great interest in the academic community and is the subject of research. Since the number of studies conducted has increased with the interest in question, it has become important to know the studies and their general trends. In the study designed with the systematic compilation model, the data were obtained from published research on digital citizenship in journals scanned in the TR Index index. In this context, 38 scientific researchers were examined on the basis of systematic compilation patterns from qualitative analysis methods. Accordingly, the distribution of the number of studies examined by year, the period of acceptance for publication, the journal name of the studies, the methods used in the research, data collection tools, validity and reliability analyses, and data analysis methods related to the data have been tabulated and graphed with frequency and percentage calculations. According to the results obtained from the research, it was concluded that the journals with the highest number of publications are in the field of educational sciences; the period of acceptance for publication is between 0 and 3 months; the qualitative research method is mostly used; the sample group is between 101-300 people; and the sample number is between 301-1000 people.

Keywords: Digital Citizenship, TR Index Satabase, Systematic Compilation, Journal, Treatises.

ÖZ

Dijital vatandaşlık kavramı akademik camiada yoğun ilgiyle karşılanmakta ve bilimsel araştırmalara konu olmaktadır. Söz konusu ilginin sonucunda da araştırmaların sayısı artmış olduğundan araştırmaların niteliği ve trendinin ne şekilde olduğunun bilinmesi de önem arz etmeye başlamıştır. Sistematik derleme modeli ile tasarlanan çalışmada veriler, TR Dizin indeksinde taranan dergilerde dijital vatandaşlık ile ilgili yayınlanan araştırmalardan sağlanmıştır. Bu kapsamda 38 bilimsel araştırma, nitel analiz yöntemlerinden sistematik derleme deseni esas alınarak incelemeye tabi tutulmuştur. Buna yönelik olarak incelenen araştırma sayısının yıllara göre dağılımı, yayına kabul süresi, araştırmaların dergi adı, araştırmalarda kullanılan yöntemler, veri toplama araçları, geçerlik ve güvenirlik analizleri ve veri analiz yöntemleri ile ilgili veriler frekans ve yüzde hesaplarıyla tablolaştırılmış ve grafiklendirilmiştir. İncelenen araştırmalardan elde edilen sonuçlara göre; yayınlayan dergilerin çoğunlukla eğitim bilimleri konu alanına sahip olduğu; yayına kabul süresinin 0-3 ay arasında olduğu; çoğunlukla nitel araştırma yönteminin kullanıldığı ve örneklem grubu olarak en çok 101-300 kişilik örneklem grubu ile 301-1000 kişilik örneklem sayısının kullanıldığı sonucuna ulaşılmıştır.

Anahtar Kelimeler: Dijital Vatandaşlık, TR Dizin Veri Tabanı, Sistematik Derleme, Dergi, Bilimsel İncelemeler.

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Introduction

Until the invention of writing, people communicated and interacted with each other through pictures and writings that they embroidered on the walls, by lighting a fire with smoke, and, long after the discovery of writing, by using pigeons (Hamamcıoğlu, 2005). It has become necessary for people to communicate by physical means in order to convey their feelings and thoughts to each other. Among the means of communication in question, the letter was the most widely used means of communication until the near-modern period, and with the near-modern period, it was replaced by the telegraph and the telephone. The introduction of the Internet after the 1950s, the III. industrial revolution, and the subsequent digitalisation process, the concept of 'digitalisation' has entered our lives and the means of communication have changed accordingly. So much so that in the modern era, letters and telegrams, which are the most commonly used means of communication in modern times, have been replaced by digital means of communication (television, computer, telephone, etc.) along with the use of the İnternet (Gaspar & Glaeser, 1998). This change in communication tools has also paved the way for people in the modern era to use technology frequently in their daily lives. Thus, the use of information technologies has increased and brought the issue of digital rights and responsibilities to the agenda, as people have started to act with a sense of duty and responsibility when using these technologies. The concept of digital rights and responsibilities proposed by Ribble et al. (2004) has been subsumed under the concept of digital citizenship and has been defined differently by different researchers. Ribble et al. (2004) defined the concept of digital citizenship as behavioural norms developed to use information technologies responsibly and appropriately, while Mossberger (2009) defined it as the ability to use information technologies effectively and participate in social activities online. Vizenor (2013) also defined the concept of digital citizenship by Ribble et al. (2004) and Mossberger (2009) as a process of using information technologies, which are responsible and appropriate use norms in their definitions. Based on these definitions, it is appropriate to define the concept of digital citizenship as the fulfilment of behaviours that should and should not be performed in everyday life in digital environments. With this definition, it can be said that the traditional concept of citizenship has begun to take shape, and digital citizenship is a crucial aspect of the digital age.

Digital citizens are those who are aware and respectful of themselves in the society in which they live and who encourage and stimulate their environment to do the same. The most important tool to ensure this situation and to educate effective digital citizens is education (Karaduman and Öztürk, 2014). Looking at the basic education programme, the information technology and software course related to digital citizenship education refers to knowledge and skills related to digital citizenship in the ethics and security unit of the education programme. This programme aims to provide students with knowledge and skills to act with a sense of responsibility while adhering to basic principles and moral values in digital media (Ministry of National Education, 2018a). Social studies education, which is given to acquire skills related to citizenship education in basic education, is also another course that plays an important role in terms of acquiring the digital dimension of citizenship today (Boğazlıyan & Yılmaz, 2018). A review of the social studies curriculum, published in 2018, includes objectives and outcomes aimed at providing knowledge and skills related to digital citizenship. Accordingly, skills such as research, environmental literacy, digital literacy, financial literacy, map literacy, legal literacy, use of evidence, decision making, location analysis, media literacy, spatial perception, political literacy, social participation, drawing and interpreting tables, graphs, and diagrams, innovative thinking, and time and chronological perception are related to digital citizenship in the programme (Ministry of National Education, 2018b).

It is important for students to reach a certain level of saturation in digital skills and to ensure their competence for the rights and responsibilities

they have in the digital sphere (Hollandsworth et al., 2011). Elçi and Sarı (2016) stated that the development of digital health, digital law, digital security, digital ethics, etc. has been achieved according to gender, age, and educational status. In this context, information technology, software, and social studies courses are offered in primary education, which enable students to acquire knowledge about digital citizenship education and digital rights and responsibilities. (Ministry of National Education, 2018a; Ministry of National Education, 2018b; Öngören & Nurdoğan, 2023). Yeşiltaş & Aslıhan (2022) emphasised that digital environments have taken a central position in the lives of individuals due to the rapid advances in information technologies and the pandemic (Covid-19) experienced today, and stated that digital citizenship education is indispensable. Ribble & Park (2022) developed a discourse in this direction, stating that citizenship education is indispensable in the digital age. They also stated that it is important to know how research on digital citizenship has developed and what the general trends are today. When scientific studies on information technologies, software education, and social studies education are examined, academic research on digital citizenship has increased in recent years (Singh et al., 2007; Veer & Khiste Gajanan, 2017; Ahmad et al., 2018; Turan & Karasu; Avcı, 2018; Ahmadvand et al., 2019; Morehouse & Saffer, 2018; Fernandez-Prados et al., 2020; Kumar et al., 2020; Zeren & Nagihan, 2020; Taşkıran, 2021; Fosso Wamba & Queiroz, 2021; Kim et al., 2021; Yeşiltaş & Yılmazer, 2021; Ghorbani et al., 2022; Sevigen & Yılar, 2022). However, the general trends of scientific research on digital citizenship have also revealed the need to identify and analyze the variables used in the research. Therefore, it is necessary to conduct a thorough scan of the research on digital citizenship (Yeşiltaş & Aslıhan, 2022).

In this research, the scientific journals indexed by the ULAKBIM TR Index application (ULAKBIM TR Index, 2022), previously called ND (National Database), were jointly indexed by the Ministry of Industry and Technology and TUBITAK after 2013, and they operate according to international publication criteria. The general trends of research published in these journals on "digital citizenship" are examined. This situation is the aim of this research. This research will contribute to the literature because scientific articles with the TR index comply with international scientific publication criteria (Miyakis et al., 2006; Kozak, 2015) and their general trends are understood. The research is also important in terms of understanding the distribution of scientific research on digital citizenship published in TR Index journals according to universities, disciplines, publication years, co-author status, different variable statuses and titles, and guiding scientific research on digital citizenship in TR Index journals. The research sought answers to the following questions:

1. What is the annual distribution of scholarly research on digital citizenship published in TR Index journals?
2. What is the distribution of digital citizenship research published in TR Index journals by period of acceptance?
3. What is the distribution of authors of digital citizenship research published in TR Index journals by title and by discipline?
4. What is the distribution of scholarly research on digital citizenship published in TR Index journals by keywords?
5. What is the distribution of scholarly research on digital citizenship published in TR Index journals in terms of methods and data collection tools?
6. What is the distribution of scholarly research on digital citizenship published in TR Index journals in terms of sample group and sample size?
7. What is the distribution of scientific research on digital citizenship published in TR Index journals in terms of sample group and size?

Methodology

Recent studies on digital citizenship have used systematic compilation, descriptive scanning, and bibliometric techniques. For example, studies on digital citizenship education (Fernandez-Prados

et al., 2020; Taşkıran, 2021; Sevigen & Yılar, 2022), digital health (Ahmadvand et al, 2019; Fosso Wamba and Queiroz, 2021), digital communication (Morehouse & Saffer, 2018; Kim et al., 2021), digital literacy (Singh et al., 2007; Yeşiltaş & Yılmazer, 2021), digital commerce (Kumar et al., 2020; Zeren & Nagihan, 2020; Ghorbani et al., 2022), digital library (Veer & Khiste Gajanan, 2017; Ahmad et al., 2018), digital law (Carlsson et al., 2017; Acar et al., 2021), digital ethics (Redondo et al., 2017; Radanliev and De.Roure, 2021) have been conducted through both systematic review and descriptive survey methods in various national and international studies. In this study, qualitative analysis methods have been used to meticulously and systematically treat research published on 'digital citizenship' in TR Index journals from 2015 to 2021. The systematic review method was used to find answers to the research questions. In a systematic review, a problem is identified and questions are formulated around it. A group is then selected to represent the universe, and numerical data is collected by asking these questions. This process is described by Karasar (2005) and Check & Schutt (2012). In this design, the data obtained is analysed descriptively by focusing on the topic being researched, as outlined by Creswell (2012).

Source of Data

Sözbilir et al. (2015) used a scientific article classification form that was revised and enhanced based on expert input and evaluation. The form included article identifier, subject, research method, data collection tools, sample, and data analysis stages. Following expert assessment, Sözbilir et al. (2015) added article type, acceptance period, keywords, and research location as subcategories to the form. In addition, the scientific article classification form was expanded to six (6) sections by incorporating tools to ensure validity and reliability.

The research began with a review of the literature on digital citizenship. Subsequently, keywords such as “digitalization,” “digital citizenship,” “digital morality,” “digital health,” “digital rights and responsibilities,” and “digital literacy” were used to search the official TR Index scientific research site. This scanning process took place on June 25, 2022.

Limitations

In the systematic compilation technique, as soon as the researcher reaches the amount of data that he/she considers sufficient in terms of purpose, scope, and result, he/she can limit and classify the data accordingly (Kiral, 2020). In addition, in order to be able to assess the scientific analysis for social science research, it is necessary to examine the studies that have been conducted recently (Aydın and Kılıç Mocan, 2019). Based on these assessments, the data are limited to studies published between 2015 and 2021 due to the systematic compilation technique used in this social science study. According to the results between 2015 and 2021, no data could be found for 2017, and 1 abstract for 2019 and 1 TUBITAK project for 2020 were not considered. As a result, 38 studies were sampled and assessed in the review.

Data Analysis

The research was analysed using the descriptive systematic compilation method, which is a qualitative research method. In systematic compilation, the main factor is to bring together similar data within the scope of determined themes and concepts and, as a result, to create and evaluate them in a way that readers can understand (Yıldırım & Şimşek, 2016; Stemler, 2000). In this study, a systematic compilation was carried out by creating specific themes and coding. To ensure the reliability of the research, the analysis of the selected studies was first performed by the researcher, and then the classifications and findings were reviewed by expert and impartial researchers. Inconsistencies in classifications and findings were resolved, and consistency between researchers was ensured. In the analysis of qualitative data, the reliability formula of Miles & Huberman (1994) [reliability = consensus / (agreement + disagreement)] was used, and the agreement between researchers was found to be 91.3%. The data of the studies whose systematic compilation method was used were transferred to the scientific article classification form, and the

data obtained here were digitised and transferred to the Microsoft Excel 2022 environment. Then, with the help of descriptive statistics, the number of scientific researches by years, the type of researches by years, the duration of being accepted for publication, the titles of the authors, the scientific fields of the authors, the keywords, the city where the research took place, the research method used, the data collection tool, the sample group and size, and the validity. The results and data obtained from the reliability and data analysis methods were tabulated in frequency and percentage using the mathematical operations module in the database environment, and some data were visualised using graphs.

Findings

Researches conducted in the field of science are very important in terms of having information about the current situation of the field of science and the level of development of the country where the research is conducted (Kozak, 2003; Hotamışlı & Erem, 2014). In this research, the research on digital citizenship published in TR Index-indexed journals was examined, and the aim was to obtain information on the developments and current situation of digital citizenship in Turkey, as well as to understand the trends of the research conducted in this context. The results of this research are presented below.

Distribution of Studies by Number and Types

Looking at the distribution of studies by year, as seen in Figure 1, there were three studies in 2015, four studies in 2016 and 2017, and eight studies in 2019 (Figure 1).

According to Table 1, the ratio of the number of studies in 2021 to all studies was 39.0%. Looking at the distribution of studies by type, there were 33 research articles, 3 review articles, 1 translation, and 1 review article. Thus, research articles represent 86.8% of all articles.

Figure 1

Numerical Distribution of Studies by Years

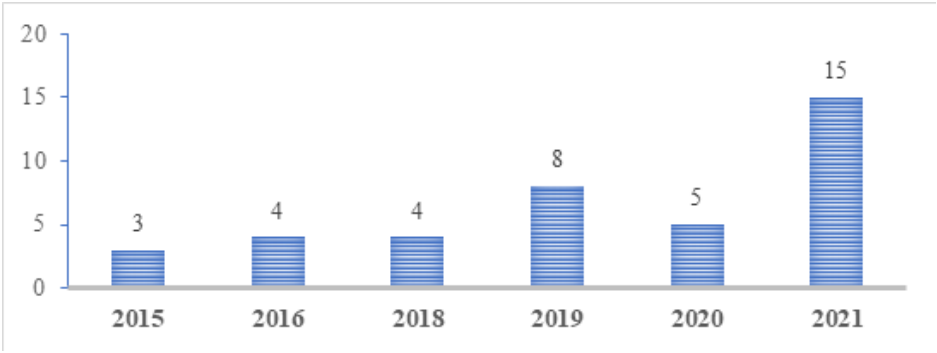


Table 1

Distribution of Studies by Year and Species

Years	Research Article	Review Article	Translation Article	Examination Article	Total	
	f	*f*	*F*	*f*	*f*	%
2015	2		1		3	7.0
2016	4				4	10.0
2018	3	1			4	10.0
2019	6	1			8	21.0
2020	5				5	13.0
2021	13	1		1	15	39.0
Total	**33 (%86.8)**	**3 (%7.0)**	**1 (%2.6)**	**1 (%2.6)**	**38**	**100**

Table 2

Distribution of Studies by Journal Name

Journal Name	*f*	Journal Name	*F*
Journal of Educational Technology Theory and Practice	3	Journal of Human and Social Sciences Research	1
Van Yüzüncü Yıl University Journal of the Faculty of Education	3	Kalem International Journal of Education and Human Sciences	1
Journal of Education and Science	2	Kastamonu Journal of Education	1
Third Sector Journal of Social Economy	2	Manas Journal of Social Studies	1
Abant İzzet Baysal University Journal of the Faculty of Education	1	Blue Atlas Magazine	1
Adıyaman University Journal of Educational Sciences	1	Mehmet Akif Ersoy University Journal of Education	1
Adıyaman University Journal of Social Sciences Institute	1	Journal of National Education	1
Online Journal of Information Technologies	1	Ombudsman Academic Journal	1
Anemon Muş Alparslan University Journal of Social Sciences	1	Journal of OPUS (Society Studies)	1
Ankara University Journal of ILEF	1	Selcuk Communication Journal	1
Balıkesir University Journal of Social Sciences Institute	1	TOJDAC (Design, Art and Communication) Journal	1
Journal of Information Management	1	Turkish Online Journal of Qualitative Inquiry	1
Journal of Buca Education Faculty	1	Turkish Studies	1
Business and Management Studies: An International Journal	1	Turkish Journal of Administration	1
Gümüşhane Faculty of Communication Electronic Journal	1	International Journal of Turkish Literature, Culture and Education	1
Istanbul Commerce University Journal of Social Sciences	1	Journal of Higher Education and Science	1
Total Number of Different Journals		**32**	

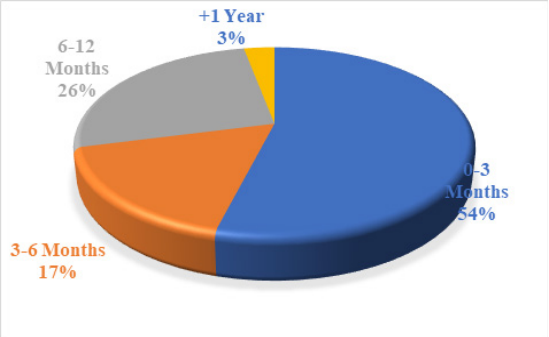
Distribution of research in terms of the name of the journal and the period of acceptance

If we examine the distribution of the studies in terms of journal names, as shown in Table 2, the total number of different journals is 32, and the journals that have more than one study are Educational Technology Theory and Practice Journal (3), Van Yüzüncü Yıl University Journal of the Faculty of Education (3), Education and Science Journal. (2), and Third Sector Journal of Social Economy (2).

Looking at the distribution of studies by time of acceptance for publication, 0–3 months (54%), 3-6 months (17%), 4–12 months (26%), and +1 year (3%), as shown in Figure 2.

Figure 2

Distribution of Research Acceptance Time for Publication

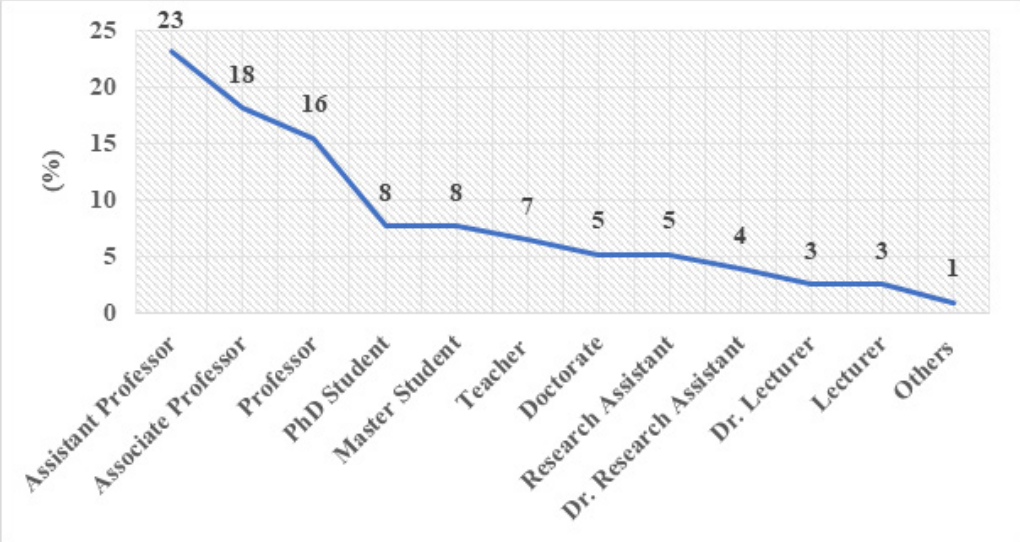


Distribution of Authors by Title and Scientific Fields

When we look at the distribution of studies in terms of author titles, as seen in Figure 3, the Dr. author rate is 23.2%, Assoc. Dr. author rate is 18.1%, Prof. Dr. author rate is 15.5%, PhD student author rate is 7.7%, Master student author rate is

Figure 3

Title Distribution of Authors



7. 7%, Lecturer author rate is 6.5%, Dr. author rate is 5.2%, Research Assistant author rate is 5.2%, Dr. Research Assistant author rate is 3.9%, Dr. It can be seen that the ratio of lecturer to author is 2.6%, and the ratio of lecturer to author is 2.6%.

As shown in Figure 4, 50.3% are from the field of education, 15.6% from the field of social sciences, and 11.6% from the field of natural sciences. The proportion of authors who do not specify a field or who have no knowledge of a field appears to be 21.9%, according to the distribution of authors by scientific field in the studies.

According to the distribution of research authors in terms of fields, as shown in Table 3, there are 21 authors from the field of Turkish and social sciences education, 10 authors from the field of computer and instructional technology education, 5 authors from the field of educational sciences, and 3 authors from the field of basic educational sciences. There are 12 authors from the social sciences and 9 authors from science, medicine, and health sciences.

Figure 4

Distribution of Authors by Scientific Field

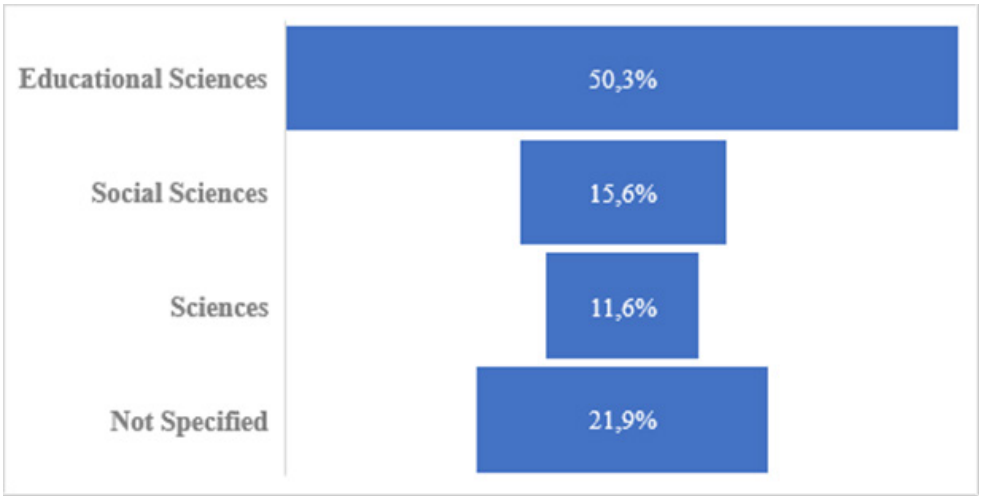


Table 3

Distribution of Research Authors in Terms of Their Affiliated Departments

	Departments	*f*	%
Educational Sciences	Turkish and Social Sciences Education	21	27.1
	Computer and Instructional Technologies Education	10	12.9
	Educational Sciences	5	6.5
	Basic/Primary Education	3	3.9
Subtotal		39	50.3
Social Sciences	Radio, Television and Cinema	3	3.9
	Public Relations	3	3.9
	Public Law	2	2.6
	Management and Organization	2	2.6
	Information and Document Management	2	2.6
Subtotal		12	15.6
Sciences	Medical Sciences	3	3.9
	Nursing	2	2.6
	Computer Science	2	2.6
	Computer programming	1	1.3
	Management and Information Systems	1	1.3
Subtotal		9	11.6
	Field Not Specified	17	21.9
	Total	**77**	**100**

Keyword Distributions Used in Researchers

In order to determine the frequency of use of the keywords used by the researchers participating in the study, they were first combined according to their equivalent and/or similar occurrences. Keywords with a frequency greater than 1 are shown in Table 4. The most frequently used keyword was digital citizenship with 24 occurrences, followed by internet, social media and pre-service teachers with 7 occurrences each.

Table 4

Most Used Keywords in Research

Keywords	***f***	**Keywords**	***F***
Digital citizenship	24	Primary education	2
Internet and social media	7	Globalization	2
Teacher candidates	7	Social studies teaching	2
Citizenship	6	e-citizenship	2
Digital information literacy	5	Scale development	2
e-government	5	İnnovation	2
Digital citizenship education	3	Qualitative analysis	2
Digital activism	3	Digital transformation	2
Human rights	3	Virtual bullying	2
Social studies	3	Curriculum	2
Content analysis	3	Teacher	2
Citizenship education	3	Education	2
Social studies teacher candidates	2	e-democracy	2

Word clouds have a very important place in terms of enhancing permanence and memorability in education (Yıldız, 2015). For this purpose, the keywords in Table 4 were transferred to Word Art software and the word cloud in Figure 5 was created.

Figure 5

Keyword Cloud in Research (Word Art)

As can be seen in Table 5, the urban distribution and frequency of the surveys were carried out in 24 different provinces. Accordingly, Ankara (8), Istanbul (6), Van (4), Konya (3), Bursa (2), Çanakkale (2), and Elâzığ (2) are the provinces in which the most research is conducted, including more than 2 each.

Distribution of Research in Terms of Methods and Data Collection Tools

The distribution of methods used in research by year is shown in Figure 6. It can be seen that the qualitative research method was used in all the research from 2015 to 2021 and that quantitative research started to increase after 2019. So much so that in the studies carried out in 2020, quantitative studies were more numerous than qualitative studies.

Table 5

Distribution of Research Provinces Carried Out

Implemented Provinces	*f*	Implemented Provinces	*f*
Ankara	8	Erzurum	1
İstanbul	6	Eskişehir	1
Van	4	Gaziantep	1
Konya	3	İzmir	1
Bursa	2	Lefkoşa/Nicosia (Northern Cyprus Turkish Republic)	1
Çanakkale	2	Giresun	1
Elâzığ	2	Kırşehir	1
Ağrı	1	Kastamonu	1
Aydın	1	Malatya	1
Antalya	1	Mersin	1
Aksaray	1	Manisa	1
Bolu	1	Trabzon	1
Total Number of Different Provinces: 24			

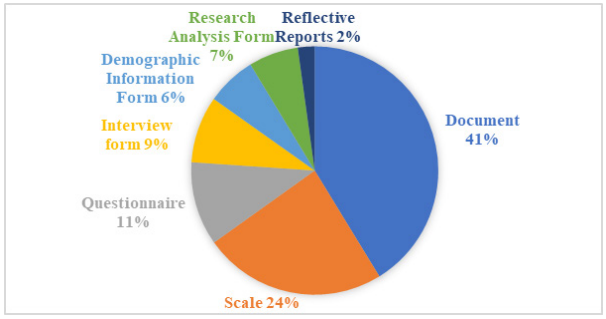
Figure 6

Distribution of Methods Used in Studies

According to the distribution rates of the data collection tools used in the research, documents have a rate of 41.2%, scales have a rate of 23.9%, questionnaires have a rate of 10.9%, and interview forms have a rate of 8.7%, as shown in Figure 7. Furthermore, in 2019, multiple data collection tools were used in many of the studies.

Figure 7

Data Collection Tool Distributions Used in Studies

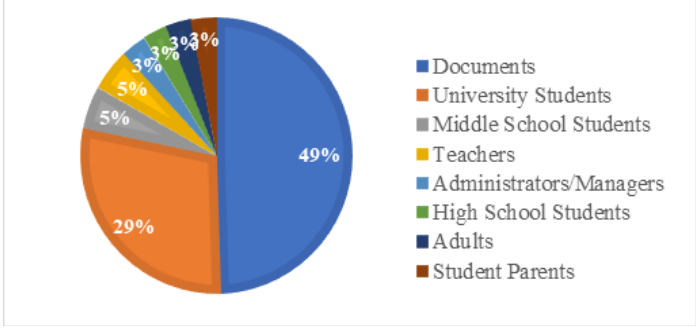


Sample Group and Size Distributions Used in Research

According to the distribution rates of the sample groups used in the research, as shown in Figure 8, the number of documents is 50%, university students are 29%, secondary school students are 5%, and teachers are 5%. Considering that most of the articles studied were written using qualitative research methods and techniques, it can be said that the documents are an important sample group in the research.

Figure 8

Sample Group Distributions Used in Research

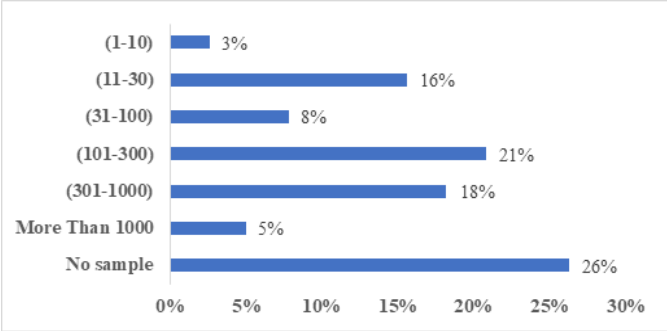


Sample Group and Size Distributions Used in Research

Considering the sample size distribution ratios used in the studies, the sample group of 101–300 people was 20.8%, and the sample group of 301–1000 people was 18.2%, as shown in Figure 9. As the studies were mostly conducted using document analysis, a sample was taken.

Figure 9

Sample Size Distributions Used in Research

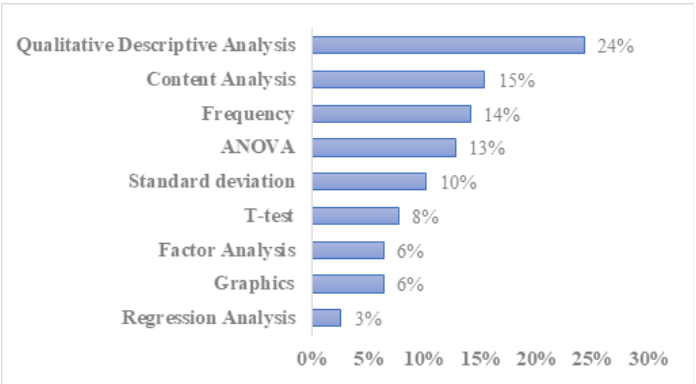


Data Analysis Methods and Validity/Reliability Distributions Used in the Research

Looking at the distribution ratios of data analysis frequently used in studies, as seen in Figure 10, qualitative descriptive analysis (24.3%), content analysis (15.4%), frequency (14.1), mean/standard deviation bias (10.2%), graph (6.4%), ANOVA (11.5%), T-test (7.7%), factor analysis (6.4%), and regression analysis (2.6%) are seen.

Figure 10

Data Analysis Distributions Used in Research



Looking at the validity and reliability distribution rates of the data analyses used in the research, as seen in Table 6, since the qualitative analysis studies are more numerous than the quantitative analysis studies, the qualitative validity tools are descriptive validity (26.6%), theoretical validity (8.9%), interpretative validity (4.4%), and generalisable validity (4.4%). Exploratory factor analysis (22.2%) and confirmatory factor analysis (8.9%), which are quantitative validity tools, seem to be the most frequently used validity methods.

If we look at the reliability methods used in research, we can see that among the qualitative reliability tools, the external reliability method (28.6%) and the method of being in the research field (10.2%) are used. According to the measurement reliability used in quantitative research, the most frequently used methods are Croanbach's alpha (20.4%), correlation (8.2%), t-test (6.1%), and special variance solutions (4.1%). In addition, KR20 (4.1%) and Pearson moment correlation (4.1%) methods are used to analyse the reliability and internal consistency of quantitative data.

Discussion, Conclusion and Recommendations

In today's world, where digital technologies are the most important elements of our lives, there are some innovations that digitalisation has brought to its medium. The most obvious example of this is the subject of "digital citizenship," which we often hear about in the academic literature, with its many sub-dimensions (digital ethics, digital

Table 6

Validity and Reliability Distributions Used in Research

Validity and Reliability Method				***f***	**%**
Validity	Qualitative Validity		Descriptive Validity	12	26.6
			Theoretical Validity	4	8.9
			Interpretive Validity	2	4.4
			Generalizable Validity	2	4.4
	Quantitative	Factor Analysis	Exploratory Factor Analysis	10	22.2
			Confirmatory Factor Analysis	4	8.9
		Expert Comment	Face Validity Index	2	4.4
			Scope Validity Index	1	2.2
		Correlation	Predictive Validity	1	2.2
			Structural Equation Modeling	1	2.2
	No Reported			6	13.3
	Total			**45**	**100**
Reliability	Qualitative Reliability		External Reliability (Code Consistency)	14	28.6
			Being in the Research Site	5	10.2
	Quantitative	Measurement Reliability	Croanbach Alfa	10	20.4
			Correlation	4	8.2
			T-test	3	6.1
			Special Variance Analyzes	2	4.1
		Internal Consistency	KR 20	2	4.1
		Scale Stability	Pearson Moment Correlation	2	4.1
	No Reported			7	14.3
	Total			**49**	**100**

commerce, digital communication, digital literacy, digital health, digital law, etc.) (Lyon, 2017; Yüce, 2010). Scientific and academic research, both national and international, to better understand this issue and its place and importance in our lives is becoming increasingly diverse. When reviewing research on digital citizenship, it is also important to consider and evaluate research that has a certain level of originality and scientific appropriateness (Karaduman & Öztürk, 2014; Morehouse & Saffer, 2018). In this study, 38 studies on digital citizenship published in journals indexed in the TR Index between 2015 and 2021 were distributed according to number and type, journal name and publication period, authors' titles and scientific fields, keywords, city of application, method, and data collection. This study was examined in terms of tools, sample group and size, validity and reliability, and data analysis methods. Trends were identified in relation to the variables. The most recent publications in terms of number and types of research were in 2021, and the publication intervals of the research were correctly extended to reach the time when most of these research articles were published. Sari & Taşçıer (2018) stated that since 2015, the number of studies on digital citizenship has been proven to be related to digital citizenship, which proves to be invalid. Similarly, Fernandez Prados et al. (2020) stated in their research that there has been an increase in the accurate number of studies on digital citizenship, especially since 2015.

When the research was examined in terms of journal name and publication acceptance period, it was concluded that the journals that published the most were the Journal of Educational Technology Theory and Practice and the Journal of the Faculty of Education of Van Yüzüncü Yıl University, and the research was published within 0 to 3 months at most. According to Akça & Akbulut (2020), publishing social science research as soon as possible, especially after the date of realisation, is an essential condition for maintaining the timeliness of research and making a sound evaluation. If we look at the titles and scientific fields of the authors of the research, the most frequently mentioned author is Assoc. Dr., as it happens, then Assoc. Dr. and Prof. Dr., respectively. When the scientific fields of the authors were examined, it was found that more than half of the authors were from the field of educational sciences, and most of the authors from Turkish and social sciences education and computer and instructional technology education were from the main branches of science. As a matter of fact, Aydemir (2019), Öngören (2022), and Singh et al. (2007) stated in their research that the topic of digital citizenship is more complementary to citizenship education in social studies education, and the related research is mostly conducted by researchers in the field of social studies education.

The keywords digital citizenship, internet and social media, teacher candidates, citizenship, digital information literacy, and e-government were widely used according to the frequency of use of the keywords included in the research. Yeşiltaş and Aslıhan (2022) also stated in their research that the most frequently used keywords in academic publications related to digital citizenship are digital citizenship, digital competence, citizenship, technology, and social media. Ravselj et al. (2022) also stated that the most commonly used keywords in academic publications related to digital citizenship are e-management, information and communication technologies, e-democracy, and the Internet.

Gürbüz & Karabulut (2008) state that in scientific research, it is important to know the demographic or socio-economic characteristics related to the location of the place where the research is conducted and, accordingly, the sample group of the subject being studied in order to make comparisons with different places. According to the frequency order of the cities where the research is applied, it has been concluded that Ankara, Istanbul, Van, and Konya are the cities. Looking at the sample group and the size of the research, it has been concluded that there is a sample group of 101–300 people in about 40% of the studies and a sample group of 301–1000 people, and the sample group is mostly composed of documents and university students. The studies

of Fosso Wamba & Queiroz (2021), Ghorbani et al. (2022), and Taşkıran (2021) show that in the relevant scientific studies, the sample group is mostly made up of people aged 100 and above, and the sample group is mostly made up of people at high school and university level. Ensuring the adequacy of the validity and reliability values of the data after obtaining the data in social science research is of great importance when considering the research (Tüzüngüç et al., 2021). As the topic of digital citizenship is also an area of sociological research, it is understood that the validity and reliability of the research conducted and to be conducted in this area should be ensured by competencies. Looking at the validity and reliability methods most commonly used in the studies reviewed in this study, it can be concluded that the most commonly used validity methods are descriptive validity and exploratory factor analysis, and the most commonly used reliability methods are external reliability (code consistency) and Cronbach alpha. In fact, Dechirmenci and Doğru (2017) explained in their research that the most commonly used validity methods in scientific studies on sociological issues are descriptive coding and factor analysis, and the most commonly used reliability methods are Cronbach alpha and intercoder consistency. It was concluded that the most commonly used data analysis methods in the studies reviewed in this study were qualitative descriptive analysis, content analysis, frequency analysis, and ANOVA. Sevigen & Ylar (2022) found that the most commonly used data analysis methods in graduate theses related to digital citizenship are the t-test, correlation, ANOVA, and frequency.

Finally, a general assessment of the findings obtained in the studies shows that the number of studies published in TR Index-indexed journals on digital citizenship has increased since 2015, and these studies are mostly research articles. In addition, most studies were accepted for publication within 0 to 3 months, and qualitative methods were mostly used in these studies.

Based on the results of this research, the following suggestions have been developed;

- ERIC, Scopus, ESCI, SSCI, etc. related to digital citizenship, conducting similar studies (bibliometric, systematic review, and screening) specifically for research published in indexed journals will be useful for comparing research.

- Focusing on mixed-analysis studies related to digital citizenship and its sub-dimensions would be beneficial to differentiate research methods.

- Conducting research on digital citizenship in all cities in Turkey will be useful for comparing studies in different places.

- It would be useful for the Council of Higher Education to use various incentive methods to ensure the participation of researchers with the title of professor, who are at the peak of their productivity, in the scientific research that will be conducted on digital citizenship.

- Sözbilir et al. (2015) reported that the Article Classification Form developed by them can be made more useful and efficient by using it in various scientific researches as a data collection tool.

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Yazar Bilgileri

Author details

*(Sorumlu Yazar **Corresponding Author**) Dr. ongorenhkn@gmail.com, Orcid: 0000-0003-3142-8184

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